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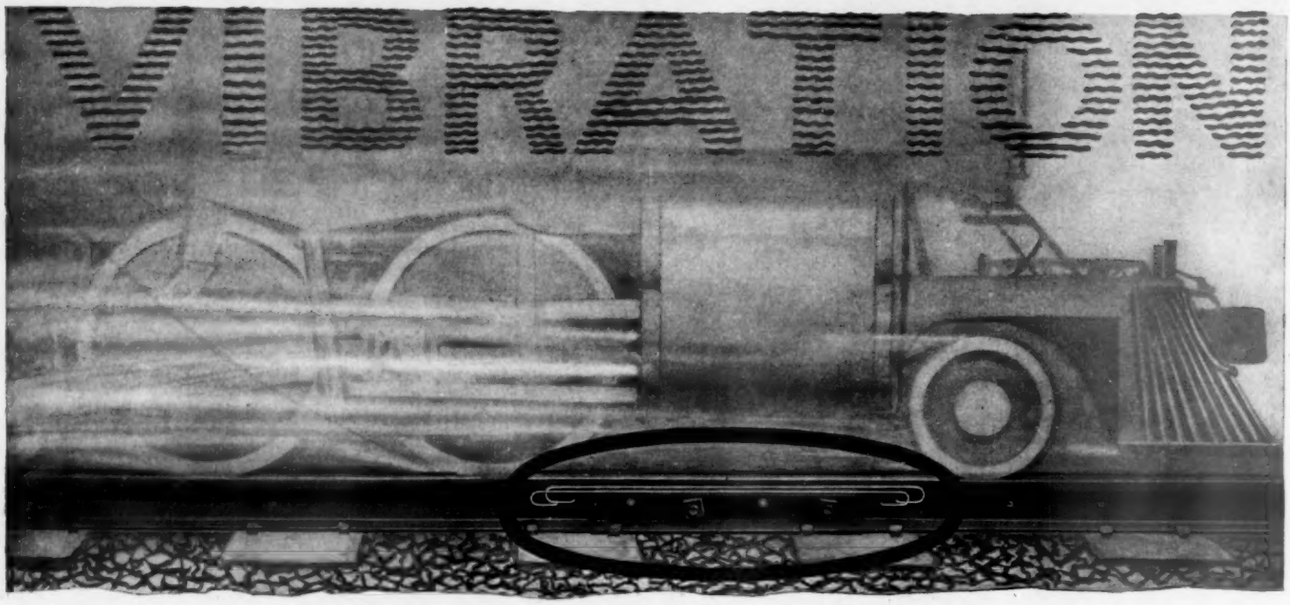

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Some Things That Must Be Done

THE RAILROADS and the public are approaching a transportation crisis. This is chiefly due to the general resumption of bituminous coal mining after a general suspension of it for almost five months. The railway shop employees' strike will make the problem presented more difficult to solve, but it would be difficult without any railway strike.

The railways apparently will be called upon to move as much or more traffic as ever before, and under very unfavorable conditions. If the strike in the anthracite mines continues they will have added to their other embarrassments the necessity of supplying with bituminous coal the eastern territory which is accustomed to using anthracite. This will complicate the situation by making it necessary to move a large volume of coal over new routes.

If the public interest is to be adequately served there must be the closest and heartiest co-operation between the railways themselves and between them and shippers and consignees. The available facilities of each individual railway must be used with the utmost efficiency, and through proper co-ordination of effort the greatest possible results must be secured with their facilities as a whole.

The solution of the problem will require that certain specific things be done. Any railways, shipper or consignee that does not do all of these things that it or he can do will assume the responsibility of interefering with efforts to deal effectively with a situation which concerns the welfare of all.

1. Every effort must be made to move without delays perishable products and foodstuffs which would deteriorate and be partially or wholly lost if prompt and sufficient transportation were not afforded them.

2. Fuel must be moved to the maximum capacity of the railways.

Service Order No. 23 of the Interstate Commerce Commission fully authorizes preferred movement for these commodities and no valid excuse could be offered for not giving them such movement. If it is necessary for any railway, in order to handle all the perishables and fuel offered to it, to divert traffic to other lines, this should unhesitatingly be done. It would be a crime against the welfare of the railroads and the American people for any railroad to allow the movement of perishables and fuel to be interfered with by attempts on its part to handle traffic which it could not handle satisfactorily and which neighboring lines could handle satisfactorily.

3. Refrigerator and coal cars should be unloaded promptly regardless of expense and regardless of the free time allowed by demurrage rules. For a consignee under present conditions to delay the unloading of cars merely because he has the legal right to do so under the published tariffs would be a crime against the public welfare.

4. The railroads should move cars promptly after they are unloaded, especially refrigerator and coal cars. They should do this to afford proof to shippers and consignees that they are making every effort to utilize equipment with the greatest efficiency. For a railway to prevail upon a shipper to unload a car promptly and then allow it to stand around for twenty-four or thirty-six hours or even longer, as often has been done in the past in periods of heavy business, would afford very persuasive evidence to shippers and consignees that the railways were not doing their best.

5. Empty cars, no matter where they are, should be moved as promptly as loaded cars. Unless this is done the maximum possible use cannot be obtained from all the serviceable cars available.

6. Cars should be loaded to their maximum capacity in disregard of prescribed carload minimums and trade customs. Under present conditions the necessity of utilizing the full capacity of every serviceable car is too obvious for discussion.

7. Individual railroads should refuse to allow their lines, yards, and terminals to become burdened with more cars, whether loaded on their own lines or received from connections, than they can keep moving satisfactorily. Study of the freight car statistics of individual railroads in past periods of heavy freight movement demonstrates one fact beyond question. This is that in every such period some railways have allowed to accumulate on their tracks more cars than they could keep moving. Congestion has resulted and the number of ton-miles of freight movement secured by these railroads has been reduced far below the maximum they could have secured if they had not let so many cars accumulate on their lines. The managements of many railways have been seriously at fault because they have not had the intelligence or the courage, after they have begun to get more cars on their lines than they could keep moving, to refuse to load more cars or to receive more from connections until they could get existing congestions cleared away. Past experience demonstrates that times come when the most efficient utilization of cars demands that individual railways shall refuse to attempt the impossible task of trying to handle more cars than they have locomotives, tracks and yards for handling.

8. The railroads as a whole, and every individual railway, should adopt means of keeping the public as a whole and the public along their own lines reasonably well in-

formed as to their situation from week to week, and even from day to day. If the shipper understands that a railroad actually is handling as much freight as it ever did before, or that it is making reasonable progress with its repairs to equipment, he will be less inclined to find fault or to go to governmental agencies to secure explanations or the correction of seeming deficiencies. A great many complaints about railroad service go to the Interstate Commerce Commission and state regulating bodies which would never go there if local railroad officers and agents were furnished sufficient information and instructed to give that information to railway patrons. This is a work in which the traffic departments of the railways could well specialize during the next few weeks or months.

Farmers and business men are greatly disturbed about present and prospective transportation conditions. We think they exaggerate the extent to which the shop employees' strike is interfering, or will interfere, with the handling of traffic, but whether this is the case remains to be seen. If the railways should fail to do the very best they can under the prevailing conditions, or fail to secure the utmost co-operation from shippers and consignees, the results might be very serious to both the railways and the public. On the other hand, if, in spite of all the adverse conditions, the railways should succeed in handling satisfactorily the enormous business that is coming, it would be a triumph for them which would confer such great benefits on the public that it could not fail to win the public's gratitude and appreciation.

The situation has its dangers, but it affords a great opportunity. Let no ground be given for the charge that in this emergency the railroads "broke down!"

Poor Tools Always a Handicap

Railroad shops have always been more or less handicapped by machine tool equipment, inadequate as to amount, power, or time-saving features of operation. This lack of modern machine tools is felt with unusual keenness at the present time because the striking shop men, familiar through long experience with the limitations of the old equipment, could get results of a kind, whereas the new men are still in the process of learning these conditions and cannot, therefore, be expected to get the same production. This point is well illustrated by the case of a certain large planer which has been in railroad shop service many years and developed a decided tendency to plane taper. In short work the taper is hardly noticeable but in planing work six feet long, for example, there is a taper of at least ⅛ in. The machinist who, previous to the strike, operated this planer for many years was accustomed to make allowance for the taper-cutting tendency of the machine by shimming up the work at one end an amount equivalent to ⅛ in. in six feet. The amount of time lost in this shimming process and taking trial cuts can be readily imagined, and when finally done the work was probably less accurate than if performed on a modern planer. Obviously, an operator unfamiliar with the vagaries of the old planer would find it difficult, if not impossible to do accurate planing and it would not be strange if important work was occasionally spoiled. Is there any excuse for the continued use of railroad shop machine tools of which the operators must learn the individual peculiarities before they can produce even moderately accurate work? Railroad mechanical officers are confronted by many pressing problems and not the least of these is the necessity of procuring modern shop machinery to replace some of the present equipment which is fit only for the scrap pile.

An Incentive for Fuel Economy

The settlement of the coal strike makes it certain that the price of coal will remain high for some time. This is an unpleasant fact, but one which cannot be ignored. The higher the price of fuel, the more the railroads can afford to spend to save it. The prospects of shortage should lead every road to attack the problem of fuel economy with renewed energy. Of course, railroad officers have many other things on their minds just at this time, but unless the matter is given attention now it is likely to be overlooked. An effective system of supervision to promote economy in the use of fuel should be organized if it does not already exist. Many of the employees will feel the need of fuel in their households this winter. Could there be any more opportune time for arousing interest in fuel saving? Equipment too should not be overlooked. Even if the shops cannot now apply betterments that would reduce fuel consumption, a definite program should be laid out which can be put into effect without delay when shop conditions return to normal.

Money Saved by Using Form 19

One way to save coal is to avoid unnecessary stops of heavy freight trains; and E. W. Weston's report of saving 500 tons a day in this way, on the Northern Pacific, is just as good a lesson today as it was when printed in the *Railway Age* February 18, 1922, page 418. It ought today to be a better lesson than it was then, for our relish for lessons in coal saving is much keener. There is another reason for avoiding stops, namely, to get the merchandise in the cars to its consignees in quicker time, and to avoid detaining passenger trains and other freight trains. The only thing that was done on the Northern Pacific to accomplish the remarkable saving in money and improvement in service was to abolish the rule requiring trains to stop for conductors to go into the station office to endorse train orders, which orders could be delivered just as well to a train in motion. Five unnecessary stops in each freight train trip was the estimate of what the use of Form 31 would cost on the Northern Pacific. The use of Form 19 for all train orders is recommended by a good number of good men. Using this means of speeding up your freight trains may save you $10,000 in freight revenue between now and next Christmas, saying nothing of coal.

Business As Usual

Strikes, a war, government operation, an industrial depression and more strikes have made the life of the railroad man a case of "one damned thing after another" for such a long time that it is almost accepted as the normal condition. However, it serves to place some men in the state of mind where they feel that they must devote all of their waking hours to emergency or routine duties and that they cannot spare time for retrospect, study or any other considerations designed for

the improvement or advancement of either their individual capabilities or those of the properties which employ them. It is this attitude which raises the recurring question as to the wisdom or propriety of holding the annual conventions of the established associations of railway officers and as a direct result of this feeling certain of the conventions have been abandoned in the last six or seven years. So also at present there is a tendency in some quarters to assume a weak-kneed attitude with respect to the two coming conventions of maintenance of way officers, namely those of the roadmaster's and the Bridge and Building associations, notwithstanding the fact that neither of these organizations has missed an annual meeting since it was organized. It is true that all efforts at the settlement of the shop strike have been abandoned, but this does not present a situation on the railroads that is more critical than many others which have obtained coincident with previous meetings of these associations of supervisory maintenance officers. Nevertheless, some of the members of these associations may have a feeling that they would be remiss in their duty to the properties if they should absent themselves for the purpose of attending these meetings. It is therefore incumbent on the higher officers to take such steps as are necessary to insure that no misunderstanding exists with respect to the attitude of the managements concerning the matter of participation in the conventions.

220 Locomotives in August

The month of August does not usually supply any considerable amount of equipment buying. There seems to be a tendency for the big orders to be placed in the spring or fall months. Why this should be is a question; but that it is the case is nevertheless true. August this year proved to be no exception as concerned car orders, but it was very much of an exception in the case of locomotive orders. The orders reported for the month totaled 220 locomotives, 576 freight cars and 22 passenger cars. The 220 locomotives made the month the best so far this year with two exceptions—April and July—and they brought the year's total of locomotive orders in the first eight months of the year to 1,055. This figure is far from breaking any records but considering how slowly locomotive buying picked up earlier in the year it is not bad. It is unfortunate that freight car orders were not forthcoming in greater volume; we shall hope for better results in September. The equipment orders for August and for the eight months including August are tabulated as follows:

CAR AND LOCOMOTIVE ORDERS

	Locomotives	Freight cars	Passenger cars
January	5	7,960	235
February	8	14,721	160
March	76	5,550	25
April	272	30,507	540
May	99	18,337	235
June	22	11,097	37
July	353	15,675	120
August	220	576	22*
Total 8 months	1,055	104,423	1,374

The locomotive orders in August included large purchases by a number of important companies. Among the leading items were: Baltimore & Ohio, 15 Pacific; Erie, 30 Mikado; Union Pacific, 55 Mountain, 10 Mallet and 15 Santa Fe; Louisville & Nashville, 30 Mikado, and Missouri, Kansas & Texas, 40 Mikado and 5 Pacific type locomotives. There are a number of important locomotive inquiries still pending.

One Way To Raise Wages

WAGES IN TERMS OF MONEY is one thing; *real* wages in terms of the necessities, conveniences and luxuries which may by purchased by them is quite another. As the *Railway Age* has repeatedly said, production in this country today—and it is true to a much greater extent in most other countries—is inadequate; so inadequate, indeed, that many people are forced to live at a standard so low that they are restricted to the bare necessities of life. To prove this it is only necessary to take the figure for total production in this country for any one year and after subtracting from it the cost of carrying on the government, a reasonable allowance for the expansion and development of new industries, and a sufficient amount to maintain educational and the cultural interests, to divide the remainder by the number of families in the country. The resulting figure, considering that the products are not evenly distributed, indicates that many families are living at an extremely low standard. This is against the best interests of the community and of the individuals in it.

It is in the interests of all of us that workers should have sufficient means and leisure time to improve themselves to a standard which will at least make them good citizens. Superficial thinkers advocate raising wages to bring this about. It is true, of course, that this may temporarily help any one class that may be given an increase in wages, but, how about those who do not receive an increase? Mere raising of wages does not insure any greater production; in fact, ofttimes it is accompanied by a decrease in production. If the raising of wages does not result in increased production, then the fact still remains that enough goods are not being produced to provide a reasonable amount for all of the people and those on the lower scale must still suffer, even though there may have been a general increase in wages and these classes may have participated in the same ratio as the others.

If raising wages will not supply the remedy, what will? Waste and lost motion must be eliminated from industry to as great an extent as possible, and the employees must be led to an appreciation of putting forth their best efforts to increase production. This will in effect increase the *real* wages, regardless of the money wages, and make it possible to raise the standards of living.

Strikes—attempting to settle things by force—are frequently resorted to by the workers, but they are a prolific source of loss of production and are tremendously costly to all concerned, including the innocent by-stander. They may have been quite necessary in the past to awaken communities to abuses and to bring about better standards in industries, but surely the time has come when the average of intelligence in this country is such that better ways of settling disputes may be found—must be found, indeed, for strikes border too closely upon anarchy for this day and age.

The Journal of Commerce (New York) has suggested that "What we really need in all our industries and especially in the public utilities, is a baptism of understanding of economics, a better realization of the natural law which governs business enterprises." This is all very true and sounds simple enough. As a matter of fact, however, the problem of getting all of the executives and workers to understand the simple economics underlying the industrial situation, and then to conduct themselves accordingly—for their own sakes as well as in the interests of the community at large—is stupendous and has many serious complications. It cannot be worked out in a day or in a generation. It must be worked out, however, even though the progress may be slow, if we are not to invite the same sort of disaster that has taken place in other countries where these fundamental truths have been misunderstood or disregarded.

The development and efficient operation of the railroads

is vital to the welfare of the country. The item of labor is a larger factor in transportation than in most other industries. The problem of supervision is far more difficult than in other industries because of the great variety of classes of workers involved and the fact that they are spread over comparatively vast territories. Because the human element is so important in this great industry, which is so necessary to the continued prosperity of the country, it is exceedingly important that all of the employees—from the chief executives to the laborers and apprentices—should appreciate their full responsibilities as workers and as citizens, and function with the greatest possible efficiency.

What is the quickest and shortest way in which this may be accomplished? Unfortunately there are no short cuts which will give permanent results, although there are some things which because of their importance may be given precedence in working out the problem.

One thing is vital, and that is, that the managements become fully awakened to the necessities of studying the personnel and directing it according to the best thought and the best modern practices. Some industries in this country and abroad have gone a long way in blazing a trail in the right direction. Unfortunately many of the railroad managements —most of them in fact—have been so hounded with problems of regulation and legislation, finance, etc., that they have to a large degree overlooked the vital importance of giving special attention to this larger question of personnel. If the managements can first be fully awakened to the importance of this question and then will install strong personnel departments which will report direct to the chief executive, and see that the best thought and methods which have been developed in other industries are adapted and applied to the railroads, then we shall have gone a long way toward final solution of the problem.

Equipment Acquired and Retired in 15 Years

WITH THE RAILWAYS apparently about to be called upon to handle the heaviest traffic in their history it is highly pertinent to consider how much the equipment they have in service has been increasing within recent years as compared with earlier years. Because of the shop employees' strike much is being said now about the condition of the equipment they have. There is no question that there are excessive numbers of locomotives and cars in bad order. This was true before the shop employees' strike began, and of course the amount of bad order equipment has increased since then. The large amounts of bad order equipment when the strike began were due to the fact that for a long time previously the earnings of most railways had been so small relatively to their operating expenses that they had to retrench sharply in every way possible, including the repairs to equipment.

But the difficulty the railroads apparently are going to have in handling all the traffic offered them is only partly due to the excessive amount of equipment in bad condition. It is going to be much more largely due to the relatively small increases that have been made for several years in the numbers of locomotives and cars in service. Some statistics which have just been compiled by the Bureau of Railway Economics from the records of the Interstate Commerce Commission, showing the numbers of new locomotives and cars put into service and the numbers retired from service during each of the last 15½ years, strikingly indicate how much the increase in the amount of equipment has declined since the policy of restrictive regulation of railways was put into effect by the federal and state government 16 years ago.

For purposes of comparison we have divided the statistics regarding the equipment acquired and retired during the last 14½ years into those for two almost equal periods. One of these is the period of seven years, 1908-1914, inclusive; the other the period embracing the years ended June 30, 1915, to December 31, 1921, inclusive, making 7½ years. The accompanying table gives the statistics regarding the equipment installed and retired during these two periods. The figures show that the numbers of locomotives, passenger train cars and freight cars retired in the two periods did not differ widely, although the numbers of each class of equipment retired in the second period was less than in the first period. There were, however, heavy declines in the amount of equipment in service in the second period as compared with the first period. These were, of course, entirely due to the fact that there were very heavy declines in the numbers of new locomotives, passenger train cars and freight cars put in service in the second period as compared with the first period.

The net results were as follows:

In the seven years ended in 1914 the number of new locomotives put in service exceeded the number retired by 10,579, while in the period of 7½ years ended with 1921 the number

EQUIPMENT INSTALLED AND RETIRED DURING THE PERIOD JULY 1, 1907, TO DECEMBER 31, 1921

Class I Railways

Year ended	Locomotives			Passenger-train cars			Freight-train cars		
	Number installed	Number retired	Net increase or decrease	Number installed	Number retired	Net increase or decrease	Number installed	Number retired	Net increase or decrease
June 30, 1908	3,227	1,140	*I* 2,087	2,183	1,630	*I* 553	171,556	70,976	*I* 100,580
1909	1,549	1,333	*I* 216	1,786	1,591	*I* 195	67,925	83,223	*D* 15,298
1910	3,073	1,452	*I* 1,621	3,505	1,914	*I* 1,591	134,593	75,652	*I* 58,941
1911	3,694	1,468	*I* 2,226	4,250	1,701	*I* 2,549	125,532	68,031	*I* 57,501
1912	2,861	1,858	*I* 1,003	3,060	1,387	*I* 1,673	97,972	69,876	*I* 28,096
1913	4,381	2,338	*I* 2,043	2,823	1,842	*I* 981	162,670	96,825	*I* 65,845
1914	3,245	1,862	*I* 1,383	3,629	1,854	*I* 1,775	150,813	96,985	*I* 53,828
Total, 7 years	22,030	11,451	*I* 10,579	21,236	11,919	*I* 9,317	901,061	561,568	*I* 348,902
June 30, 1915	1,114	1,507	*D* 393	2,664	1,385	*I* 1,279	86,012	90,347	*D* 4,335
1916	1,475	2,576	*D* 1,101	1,261	2,156	*D* 895	88,254	109,996	*D* 21,742
*6 mos. July 1, to Dec. 31, 1916	993	1,108	*D* 115	897	1,000	*D* 103	63,426	53,136	*I* 10,290
1917	2,148	1,423	*I* 725	2,535	1,671	*I* 864	117,210	62,253	*I* 54,957
1918	2,803	977	*I* 1,826	1,817	1,051	*I* 766	65,249	56,024	*I* 9,225
1919	2,062	999	*I* 1,063	435	670	*D* 235	76,019	43,274	*I* 32,745
1920	1,017	1,254	*D* 237	621	885	*D* 264	36,044	75,197	*D* 39,153
1921	1,206	1,062	*I* 144	1,633	806	*I* 827	61,648	62,538	*D* 890
Total, 7½ years	12,818	10,926	*I* 1,912	11,863	9,624	*I* 2,229	593,862	552,765	*I* 41,097

I Increase. *D* Decrease.

* Obtained by taking one-half of returns reported for the year ended December 31, 1916.

SOURCE: For years 1908 to 1920 from summaries of the Interstate Commerce Commission. Data for the year 1921 compiled from annual reports of the railways to the Interstate Commerce Commission.

of locomotives put in service exceeded the number retired by only 1,912. In the first period the net increase in the number of passenger cars in service was 9,317 and in the second period only 2,229. In the first period the net increase in the number of freight cars in service was 348,902, while in the second period it was only 41,097.

When statistics showing this same general tendency have been cited in the past it has frequently been answered that while the increase in the numbers of locomotives and cars within recent years have been smaller than formerly, the average power of the locomotives and the average capacity of the cars put in service have been greater than formerly. The fact is, however, that the average tractive power of locomotives and the average capacity of freight cars were increasing as fast in proportion in the seven years ending with 1914 as in the seven years ending with 1921. Therefore, these statistics regarding the relative increases in the numbers of cars and locomotives reflect with approximate accuracy the relative increases in the total tractive power of locomotives and the total capacity of cars.

The railways in 1916, after a period of depression, were called upon to handle a vastly increased business. They had with which to handle this business about 6,300 more locomotives and about 201,000 more freight cars than they had five years before. The railways in 1922, after another period of depression, are again called upon to handle a greatly increased business. At the beginning of the present year, however, they had only 3,500 more locomotives and only about 57,000 more freight cars than they had five years before. The development of the railways already had seriously slowed down before the big increase in business came in 1916. In consequence, in spite of the increase in facilities which had occurred in preceding years, they found it extremely difficult in the years from 1916 to 1920 to handle all the business offered to them. But the decline in their development has been much greater since 1916 than in the years immediately preceding 1916.

In view of the large amount of equipment now in bad order and of the relatively very small net increase in the amount of equipment in existence which has occurred within recent years it is plain that if the increase in traffic now coming is to be anywhere near as large as that which began in the latter part of 1915 the railways will find it extremely difficult, if not actually impossible, to cope with it. If this should prove to be the case it will be futile, and worse than futile, to attribute it entirely, or even mainly, to the relatively large amount of equipment now in bad order. The situation with respect to bad order equipment can and probably will be remedied in a comparatively short time. Remedying the serious deficiency of equipment actually in existence will present a much more difficult and important problem. It is but a part of a proportionately great deficiency of facilities of all kinds, including main tracks, sidings, yards, terminals, shops, stations, and so on. This larger problem can be solved only by allowing the railways as a whole to earn net returns over a period of years sufficient to enable them to raise very large amounts of new capital.

The problem presented by the excessive amount of bad order equipment undoubtedly will be solved within a comparatively short time, although probably not in time to prevent its existence causing a great deal of trouble during the rest of the year 1922. The problem presented by the necessity for a very large increase of railway equipment and facilities of all kinds cannot and will not be solved this year, and will not be solved for years to come, unless the policy of regulation followed in future is very different from that which has been followed during the 15 years in which has occurred the decline in the expansion of the railways reflected by the statistics regarding the equipment put in service and retired that are presented herewith.

Letters to the Editor

[*The* RAILWAY AGE *welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about* 250 *words—are particularly appreciated. The editors do not hold themselves responsible for facts or opinions expressed.*]

A Good Suggestion

HAILEYVILLE, Okla.

TO THE EDITOR:

In sorting out an accumulation of *Railway Ages* a few days ago it occurred to me that those which I did not care to file away would make good reading for the track and bridge foreman and laborers along the railroad. On this division there are about 50 gangs, so I bundled up three copies in each package and marked them for the foremen at the different places.

The average foreman is desirous of improving his education in railway work and there is no better information to be found than in the pages of the *Railway Age*. Some of these men are in isolated places, housed in box cars and do not have an opportunity to secure such reading matter. I do not know what disposition the superintendents make of their *Railway Ages*, but I believe it would be a good plan if, after they have served their purpose, they would pass them along to others who do not have the opportunity to read such a valuable periodical on railway work.

J. L. Coss,
Train Dispatcher, Rock Island Lines.

Looking Forward—With Results

PHILADELPHIA, Pa.

TO THE EDITOR:

To study human nature and to improve himself in the details of disciplining his subordinates are primary duties of a railroad superintendent; if he is not fairly competent in these features he is not a good superintendent. The injunction to energetic progress in this direction is, I take it, the salient point in your editorial of August 26 on "Looking Ahead." Looking ahead is all right for an editor; it is his duty to look, and to proclaim what he sees. But it is the duty of the railroad officer to *move* ahead; to do something. An operating officer is a commander of ranks of men who are moving ahead, whether he will or no; if he does not direct them in the right way they will progress in some other way. To wait to see which way the rank and file desire to be led is fatal. The politician may pursue this policy, but the business man or the engineer cannot. I am reminded of a word of Dwight L. Moody, the great evangelist of the last century. He was equal to a major general as a commander and leader. Being told by church officers that for two years they had been aiming to accomplish a certain object, he said, "Isn't it about time you fired?"

Isn't it about time that the superintendents and foremen to whom you are preaching took pencil in hand and, as they look ahead, put down on paper what they see—and what they are going to do about it? One can look too far ahead. It may be a salutary exercise to set the first day of next month as the time to put into actual practice some good resolve that thus far has been only a vague intention. Bismarck, another great general of the 19th century, said that he was able to decide great questions, because he had to. He did not ascribe his success to genius. The time came when he was forced

to reach a decision, and he decided. An important duty of a general manager may be to force his subordinates to bring certain perplexities to a head at a definite time.

I write from the standpoint of a representative of the people. In conducting inquiries into railroad practices, there is a constant dampener in the almost universal plaint of railroad officers that their plans for future improvement are delayed by all sorts of obstacles, which they profess to deplore but which they do not seem to combat with any reasonable vigor. The proper function of a railroad commissioner is not to drive the railroad manager, but to arouse him (where he is lazy or neglectful) to drive himself. As I read your little lecture I queried whether you were not directing your readers' eyes too far into the future. Please tell them some specific thing to do right now! For example, that trainmaster or locomotive foreman who, for a year, has shown that he is never going to be a strong man, and whose conduct and policies have given frequent evidence of a softness which will forever postpone decided success—what is going to be done about him? If he is going to be asked to resign, or if he must be transferred to some other position—*When will action be taken?*

One who investigates railroad practice from the outside finds himself very often in contact with officers who seem to have studied human nature and who know what good discipline requires, but whose arm that ought to put good discipline in force, with a human touch, seems to be partly paralyzed. Please, Mr. Editor, go out among your readers and find out what answer they are making to the express or implied criticisms in your editorial.

COMMISSIONER.

A Lawyer's Reflections on the Recapture Clause

NEW YORK.

TO THE EDITOR:

Your Washington correspondent in a recent issue (*Railway Age,* July 15, page 106) speculated interestingly as to the recapture basis under the Transportation Act, 1920. It was suggested that the 6 per cent provision of clause 6 of Section 15-a of the Interstate Commerce Act may be held to be subject to fluctuation; that changes in the "fair return" may reduce or increase this 6 per cent. It was suggested that the recent fixing of the fair return at 5¾ per cent could conceivably operate to reduce the 6 per cent in clause 6 to 5¾ per cent; but reasons were advanced for a contrary holding.

No lawyer's opinion can settle this problem. It will doubtless get judicial interpretation in the course of time. But a lawyer's reflections may be of interest to some of your readers.

1. By ordinary canons of statutory interpretation, clause 6 would be read by itself. The 6 per cent is there expressed as a flat rate. No relationship between it and the "fair return" is implied. The figure 6 stands squarely on its own base as a fixed unchangeable integer.

2. Your correspondent hints that clause 5 (which provides that income "*so* in excess of a fair return" shall be held in trust for the United States) might subject to recapture one-half of the income in excess of a fair return, rather than that in excess of 6 per cent. While the word "so" may lend momentary support to that theorem, the proposition would seem to fall when it is remembered that the thing to be held in trust is "*such part* of the excess, *as hereinafter prescribed.*" "Such part" must be, or ought to be, one-half of the excess not only above a fair return but also above 6 per cent, as prescribed by clause 6, immediately following.

3. His reference to the second sentence of clause 9 discloses a real difficulty in statutory construction. A court would be in duty bound to give clause 9 some meaning, if at all possible. If excess income be based on a flat 6 per cent, then there would need to be no computation or adjustment to determine excess income in a year in which the "fair return" had been changed. It seems difficult to give this sentence any rational meaning. It would be, under ordinary circumstances, an unwarrantable extension of the court's power to interpret statutes for a court to hold that this sentence in clause 9 turned the fixed figure "6 per cent" in clause 6 into a flexible fluctuating figure. I must confess my present inability to make any reasonable disposition (except by my paragraph 5, below) of that portion of the second sentence of clause 9 which relates to calendar years subsequent to 1920. It looks as if the legislative mind had thought that there would have to be a new computation of excess income whenever the fair return was changed; but it was in error in so thinking where the fair return is reduced below 6 per cent.

4. Your correspondent states that "the commission has as yet made no ruling, etc." Categorically, this is accurate. Inferentially, however, a ruling has been postulated in "Reduced Rates, 1922" (No. 13,293, decided May 16, 1922, at page 682), the commission saying:

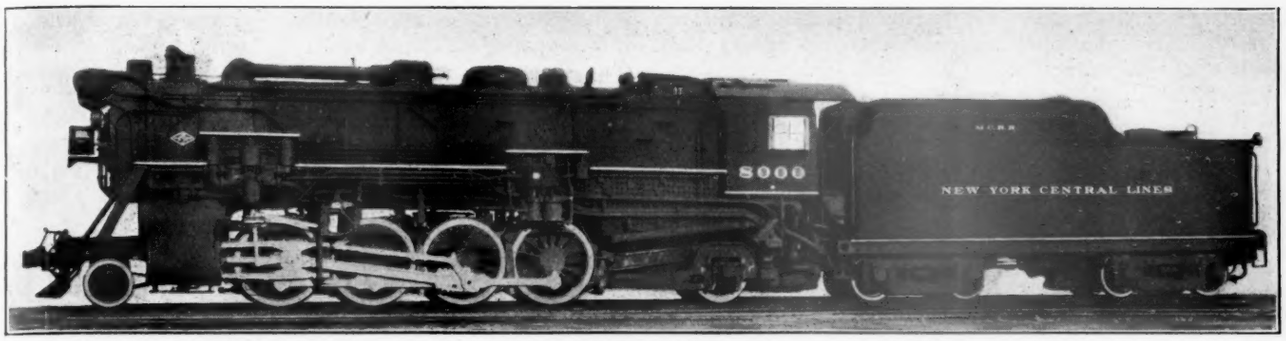
> "Paragraph (6) of section 15a provides for the disposition of net railway operating income *in excess of 6 per cent.* . . . . . One-half of the excess goes into a reserve fund" etc.

Here, at least, the commission did not intimate that the recapture basis is flexible

5. One would be deficient in a sense of humor not to mention another possible area of speculation, viz.: Suppose that the commission should fix the fair return at 8 per cent (or any rate in excess of 6 per cent). Would the recapture still be one-half of the excess over 6 per cent? Logically, would it not have to be so, on the grounds above discussed? Perhaps. But it might equally well be argued that, reverting to clause 5, the thing held in trust for the United States is that "in excess of a fair return;" and that "such excess" in clause 6 means the excess above a fair return (clause 5) no less than it means the excess above 6 per cent (clause 6). In other words, the 6 per cent is, for recapture purposes, a minimum but not a maximum. If the fair return is fixed at 6 per cent or less, recapture relates to excess above 6 per cent; but if the fair return is fixed *above* 6 per cent, the carrier must get its full fair return before the recapture provisions come into play. This branch of the discussion is doubtless academic: nothing but another world war or other universal calamity would be likely to lead the commission to entertain consideration of a fair return exceeding 6 per cent.

ROBERTS WALKER.

CROSSING CROSSINGS INCAUTIOUSLY continues to be a popular amusement. The Pennsylvania Railroad has just completed another check upon automobile drivers at selected crossings in Pennsylvania, New York, Delaware, Maryland, and Virginia, noting the circumstances of 831 cases of gross negligence. At one crossing, during a period of 17 hours, 73 cars, bearing license tags from five different states, averaged 37 miles an hour when running across the railroad tracks and in two instances they were making almost a mile a minute. At another crossing nineteen new and inexperienced drivers were observed; fifteen tried to "beat" other automobiles across the railroad tracks and one car was driven 25 miles an hour in the dark without lights. It was not possible to tell how many cars had defective brakes, but four recent accidents at crossings on the Pennsylvania were ascertained to be due to this cause.



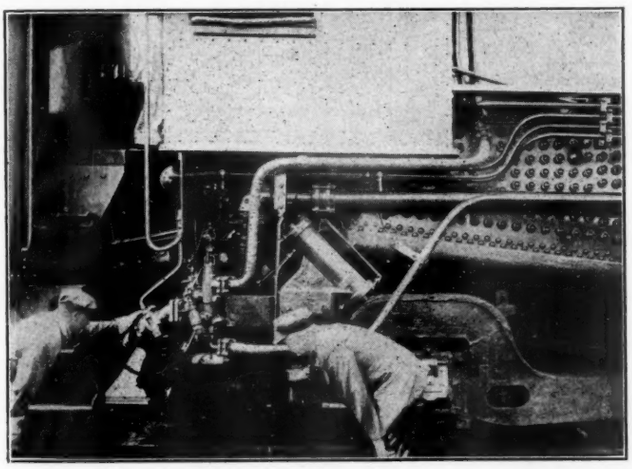
Left Side View of Michigan Central No. 8000

Michigan Central Mikado Has Many Special Features

Modern Appliances Co-ordinated to Give Maximum Efficiency—Refinements in Design to Reduce Weight

FEW locomotives built in recent years have created as much interest as the special Mikado type, No. 8000, built for the Michigan Central by the Lima Locomotive Works, which was described briefly in the *Railway Age* of July 22, 1922, page 171. Further details including drawings, have now been made available.

As outlined in the earlier article, the object of the design was to provide the maximum hauling capacity with the minimum fuel consumption and without exceeding the allowable limit of weight. The Michigan Central was already using a very well designed Mikado, designated as type H7E, and the problem of effecting a marked improvement over the performance of this locomotive was a difficult one. That a satisfactory solution was found is indicated in Table I.



Rear of Locomotive, Showing Stoker, Booster and Grate Shaker

It will be noted that with an increase of 1.8 per cent in total weight, the maximum tractive force without the booster has been increased 7.6 per cent and with the booster, 26.3 per cent. The weight per cylinder horsepower, based on Cole's method, has been decreased 5.1 per cent. This does not take into account the improvement in performance due to the feedwater heater, high degree superheat and the operation of auxiliaries with superheated steam. The estimated performance curve shows a maximum of 3,070 cylinder horsepower, an increase of 17.0 per cent and a decrease of 12.8 per cent in weight per cylinder horsepower.

The figure for the boiler horsepower of No. 8000 by Cole's method is an approximation because only incomplete data are available regarding the evaporation from 3¼-in. boiler tubes. The figures are given to afford a comparison of the two boilers on the basis of a steam consumption of 20.8 lb. per horsepower hour. While any prediction of the water rate for this locomotive is subject to error, 18 lb. per horsepower hour does not seem too low. At this rate the estimated boiler output would be 3,160 hp. and since the feedwater heater increases the steaming capacity, the evaporation should be fully up to the cylinder requirements.

TABLE I—COMPARATIVE DATA FOR CLASS H7E AND NO. 8000

	Class H7E	No. 8,000	Increase Per Cent
Weight on drivers, lb.	246,000	245,500	0.2*
Total weight, lb.	328,000	334,000	1.8
Cylinders, diameter and stroke	27 in. by 30 in.	28 in. by 30 in.	...
Tractive effort without booster, lb.	59,000	63,500	7.6
Tractive effort with booster, lb.	.....	74,500	26.3
Cylinder horsepower, maximum (Cole)	2,624	2,824	7.6
Weight per cylinder horsepower (Cole), lb.	125	118	5.1*
Cylinder horsepower, maximum, estimated from performance curve	.....	3,070	17.0
Weight per cylinder horsepower, estimated lb.	.....	109	12.8*
Boiler horsepower, maximum (Cole)	2,420	2,735	13.0
Weight per boiler horsepower (Cole)	135	122	9.6*

*Decrease.

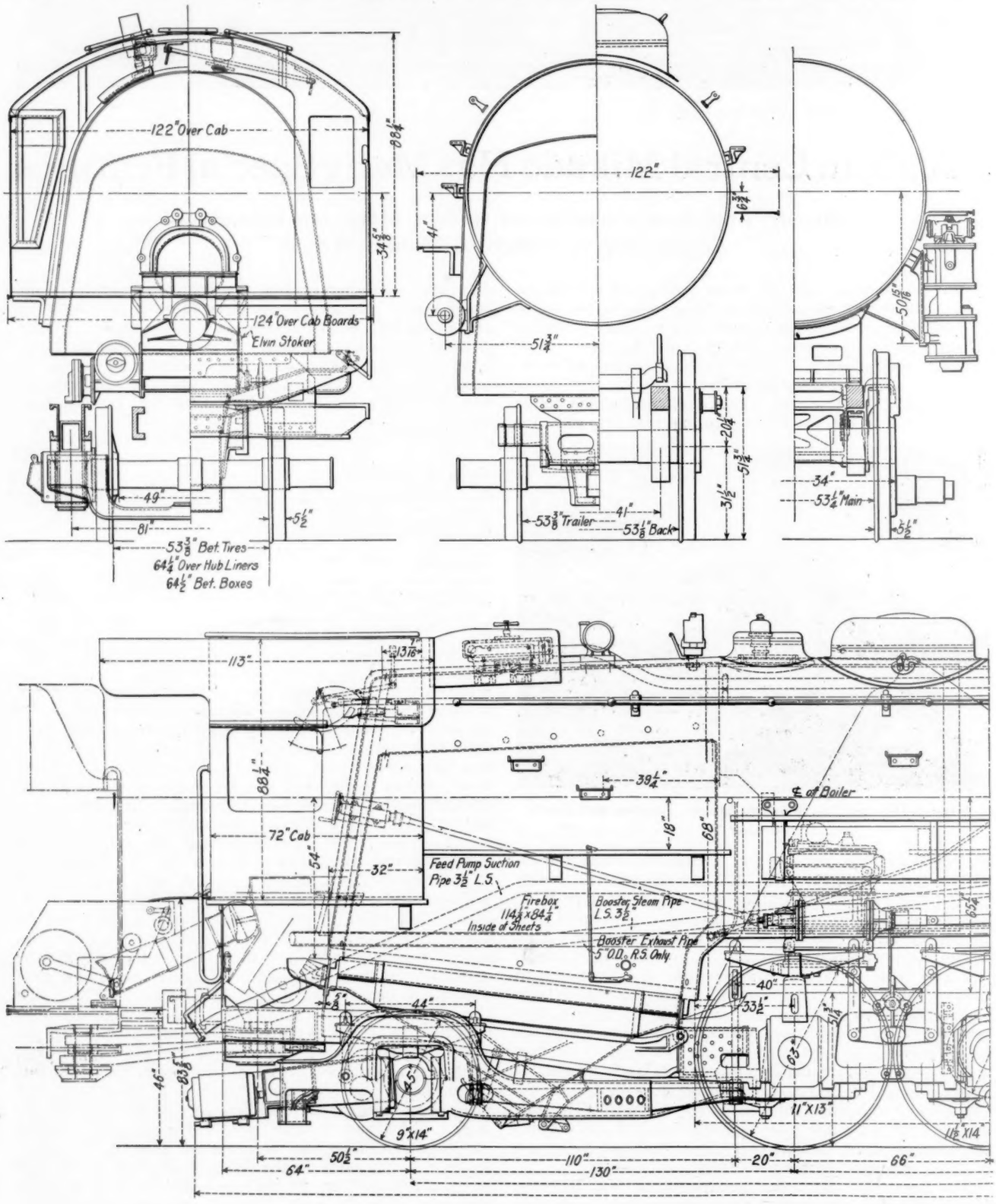
Another primary consideration in the design of No. 8000 was fuel economy, not necessarily the burning of less fuel than previous locomotives, but the ability to obtain greater drawbar output for the fuel consumed. This object was attained by incorporating into the design well-known fuel-saving devices properly proportioned with respect to the locomotive and its appliances to give the best results.

The Superheater Company's type *E* superheater is used and provides steam for all auxiliaries as well as the cylinders. This design of superheater permits of using but one size of tube and the entire boiler is equipped with 3¼-in. tubes. A large proportion of these tubes contain superheater units and the steam is raised to a higher temperature than is obtained from the usual type *A* superheater. The design also provides a greater total steam area through the units than the type *A* and at the same time permits of greater gas area through the tubes. In view of this greater gas area, more heat is absorbed from the gases before they pass into the smokebox and consequently there is a better boiler and superheater performance and less heat is lost through the stack. The damper usually found in the type *A* superheater has been omitted because the throttle is ahead of the superheater and protection to the units is afforded by the flow of steam through them for the blower and the other auxiliary apparatus when the main engine is shut off. A removable

plate is applied to the smokebox over the superheater header to facilitate the tightening of joints when assembling the superheater. The Superheater Company's feedwater heater is applied which utilizes a portion of the exhaust steam to heat the feedwater from tank temperature to about 225 deg. F., the condensate being returned to the tender.

The firebox is supplied with coal by an Elvin stoker and is equipped with the American Arch Company's type *P* double firebrick arch, consisting of two sets of refractory brick supported on two horizontal rows of arch tubes, each comprising four 3½-in. tubes. This design of firebrick arch is new. Its purpose is not only to ensure complete combustion, but to improve water circulation in the boiler, the chief object of the double rows of arch tubes.

Additional economy of steam is secured by the use of superheated steam in the auxiliaries, including the air com-

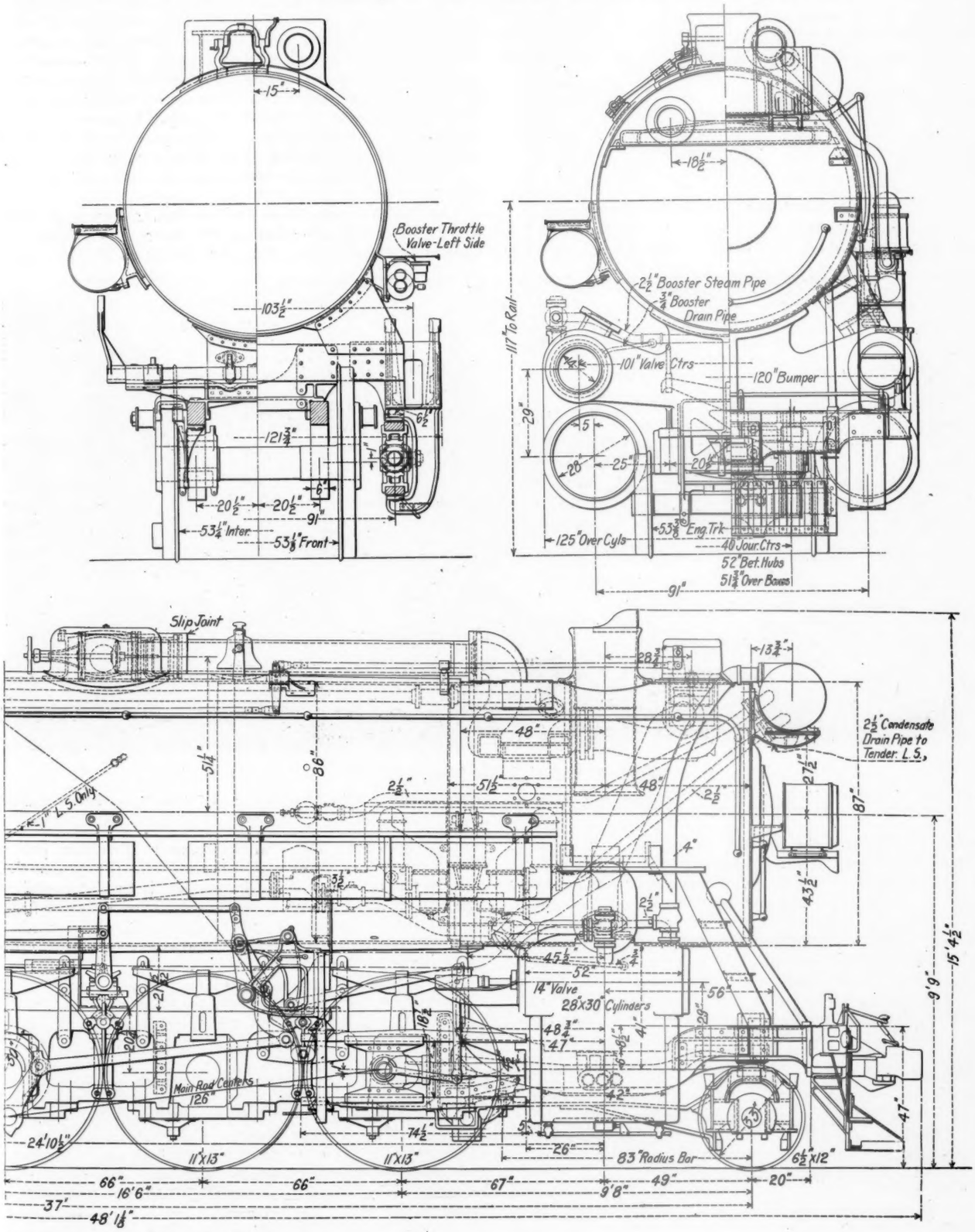


Side Elevation and Sections of

pressor, feedwater pump, blower, turbo-generator, stoker and locomotive booster. These accessories at times use more than 25 per cent of the steam from the boiler. The consumption per unit of work done is quite high and the saving by superheating the steam should be relatively large.

Reduction of Weight and Dynamic Augment

Careful attention was given to all the details of design to eliminate every pound of unnecessary weight. Little opportunity for reduction was found in the boiler or frames, but surprising savings were made in some of the minor details. For example, by refinement in design, the foundation brake rigging was cut down 1,800 lbs. without sacrificing strength. The use of magnesia lagging saved several hundred pounds. One of the reasons for the selection of the Elvin stoker was its relatively light weight.



Michigan Central Mikado Locomotive

To keep down the weight of the locomotive, the axles and main crank-pins were made hollow and Lima special quality steel, which is a chrome-vanadium steel heat treated by annealing, was used in main and side rods. Great care was also exercised in the design of the reciprocating parts so that not only was a saving made in the static weights, but it was also possible to reduce the dynamic augment, or pressure at the rail due to excess counterbalance. Table II indicates the relative dynamic augment of Class H7E, and No. 8000 at operating speeds of 30, 40 and 50 miles per hour. The reduction of 52 per cent in the maximum dynamic augment shows the advantage of the high-quality steel used in the running gear.

TABLE II—DYNAMIC AUGMENT OF CLASS H7E AND NO. 8000

	30 m.p.h.		40 m.p.h.		50 m.p.h.		Decrease,
Wheels	H7E	8000	H7E	8000	H7E	8000	per cent
Front	3,430	1,920	6,100	3,420	9,520	5,340	44
Intermediate ..	4,040	1,920	7,180	3,420	11,200	5,340	52
Main	2,040	1,470	3,630	2,610	5,680	4,080	28
Back	3,510	1,860	6,240	3,300	9,750	5,160	47

Special Features of Construction

In order to attain the objects sought in the design of No. 8000 many innovations were made in the construction. The special features are the subject of patents now pending.

The boiler is of the straight-top type and carries 200 lb. per sq. in. pressure. The barrel has an outside diameter of 86 in. at the first ring and contains 253, 3¼-in. flues, 20 ft. long. The firebox has a grate area of 66.4 sq. ft. There is no combustion chamber but, as mentioned above, a double arch is applied on eight arch tubes. One of the interesting details is the large mud-ring corners which have a radius of 12 in. This easy curve makes it possible to apply rivets instead of patch bolts, improves the circulation around the firebox and facilitates inspection and cleaning. The heating surface of the firebox and arch tubes is 291 sq. ft. and of the flues, 4,287 sq. ft.

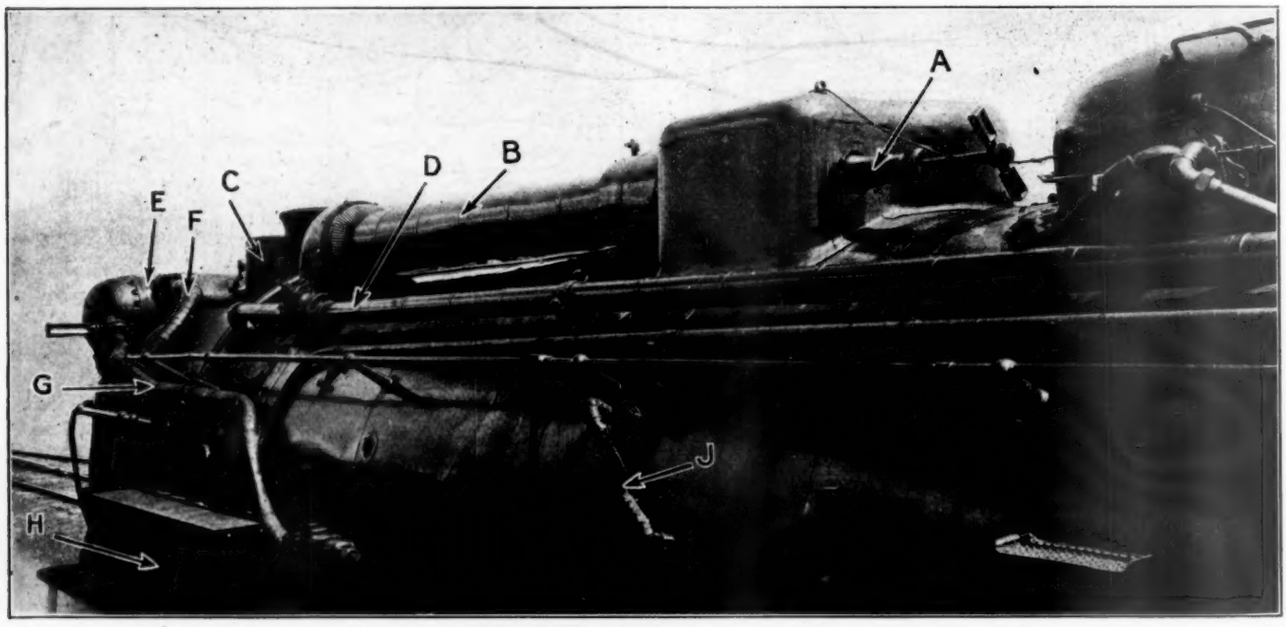
To insure that dry steam is delivered to the superheater, a steam separator is placed at the highest point in the dome. Any entrained moisture is removed from the steam before it enters the dry pipe and is returned to the boiler.

New Throttle Arrangement

The throttle valve, instead of being located in the dome, is placed in the top of the smokebox just ahead of the stack, shutting off the steam from the cylinders but not from the superheater. On account of this arrangement an outside dry pipe with a shut-off valve as clearly shown below, is used so that the steam can be shut off and the throttle ground without blowing down the steam pressure on the boiler. To reduce the number of joints, the dome and the back end of the dry pipe are made integral of a steel casting.

The steam after flowing through the dry pipe and superheater tubes, passes to the right side of the superheater header, which has a main outlet leading to the throttle which supplies the main cylinders and the booster and a smaller connection to the superheated steam pipe to the turret which supplies the other auxiliaries. The throttle valve is located at the top of the smokebox where it is readily accessible. It is of the usual double-seated poppet type with top lift operated by outside rigging. The expansion of the boiler tends to change the setting of the throttle valve and to overcome this the Jones compensating arrangement has been applied.

The cylinders and valves are in accordance with the usual practice with the exception of the valve travel which has been increased to 8¾ in. by a special design of Baker valve gear controlled by the Franklin type D Precision power reverse gear. The booster, which adds 17.3 per cent to the starting tractive effort of the locomotive, is the latest design type C-1 using superheated steam. The exhaust steam from the booster is discharged out of the stack, thus creating additional draft and increasing the steaming capacity of the boiler at low speeds.



Forward End of Boiler from Left Side

A, Shut-off Valve; *B*, Outside Steam Pipe; *C*, Throttle; *D*, Superheated Steam Pipe to Turret; *E*, Feedwater Heater; *F*, Exhaust Steam Pipe to Heater; *G*, Feedwater Discharge Pipe from Heater; *H*, Feedwater Pump; *J*, Drain Pipe from Steam Separator.

The feedwater heater is carried on brackets secured to a permanent top section of the smokebox front. This elevated location of the heater enables the water condensed from the exhaust steam to flow to the tender by gravity. The arrangement of the smokebox front avoids any difficulty in removing it to reach the front end netting or superheater.

Superheated Steam for Auxiliaries

Reference has already been made to the use of superheated steam in the auxiliaries. Special arrangements have been made so that if necessary, saturated steam can also be used. Two turrets are mounted over the firebox just ahead of the cab. The left-hand turret is connected to the superheated steam pipe leading back from the header and

carries transverse pipes leading to the right turret. The right turret has a connection to the saturated steam space in the boiler which is normally shut off. A stop valve is located in the superheated steam pipe to the turret just back of the point where it issues from the smokebox, so that by opening the valve between the right turret and the boiler and closing the valve in the steam pipe, saturated steam can be used. It is of interest to note that no changes in the design of the auxiliaries were necessary to adapt them for superheated steam, the only modifications being in the use of materials that would withstand the higher temperatures.

The tender has a capacity of 10,000 gal. of water and 16 tons of coal. It is carried on Commonwealth four-wheel trucks and has a Commonwealth cast-steel tender frame.

The accessories used on this locomotive include the Commonwealth-Franklin engine truck, type B Delta trailing truck with constant resistance centering device, Franklin radial buffer and unit safety drawbar, Pyle-National type K-2 headlight generator, Franklin grate shaker, Franklin adjustable wedge and driving box spreader and cellar, Franklin sprinkler and McLaughlin flexible joints.

The dimensions, weights and factors are as shown in the tabulated data sheet:

LOCOMOTIVE DATA SHEET

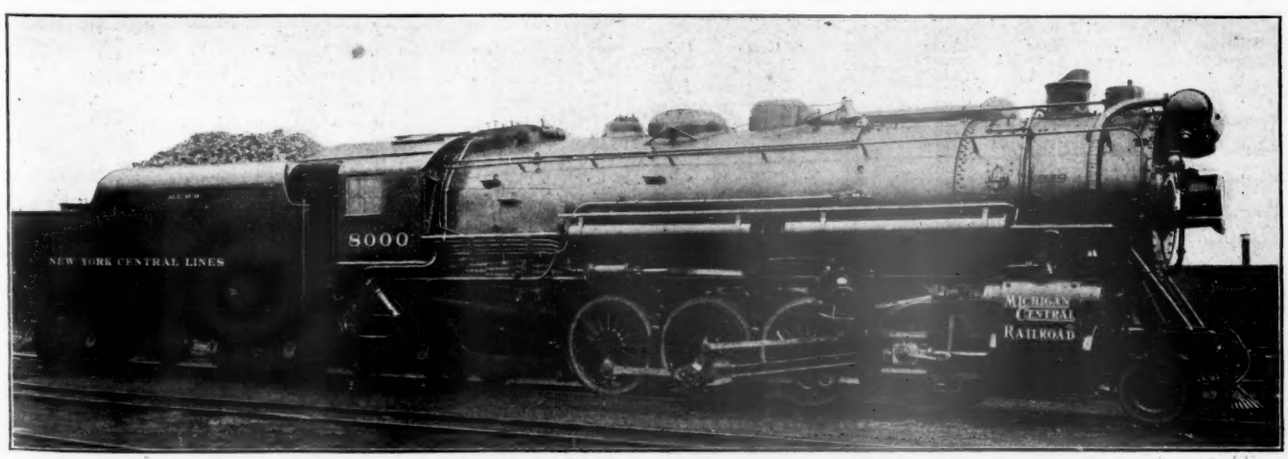
Railroad	Michigan Central
Type of locomotive	2-8-2
Service	Freight
Track gage	4 ft. 8½ in.
Cylinders, diameter and stroke	28 in. by 30 in.
Valve gear	Baker
Valves, kind and size	Piston, 14 in. dia.
Maximum travel	8¾ in.
Outside lap	1¼ in.
Exhaust clearance	⅞ in.
Lead in full gear	3/16 in.
Weights in working order:	
On drivers	245,500 lb.
On front truck	30,000 lb.
On trailing truck	58,500 lb.
Total engine	334,000 lb.
Tender	199,700 lb.
Wheel bases:	
Driving	16 ft. 6 in.
Rigid	16 ft. 6 in.
Total engine	37 ft. 0 in.
Total engine and tender	71 ft. 6½ in.
Wheels, diameter outside tires:	
Driving	63 in.
Front truck	33 in.
Trailing truck	45 in.
Journals, diameter and length:	
Driving, main	11½ in. by 14 in.
Driving, others	11 in. by 13 in.
Front truck	6½ in. by 12 in.
Trailing truck	9 in. by 14 in.
Boiler:	
Type	Straight top
Steam pressure	200 lb. per sq. in.
Fuel, kind and B.t.u.	Bituminous coal, 14,000 (app.)
Diameter, first ring, outside	86 in.
Firebox, length and width	114⅛ in. by 84¼ in.
Height, grate to crown sheet, back	68½ in.
Height, grate to crown sheet, front	87 in.
Arch tubes, number and diameter	8—3½ in.
Combustion chamber	None
Tubes, number and diameter	253—3¼ in.
Tubes, length	20 ft. 0 in.
Tubes, spacing	5/8 in.
Tubes, inside diameter	2,982 in.
Gas area through tubes	12.26 sq. ft.
Net gas area through tubes	9.47 sq. ft.
Grate type	Table
Grate area	66.4 sq. ft.
Heating surfaces:	
Firebox, incl. arch tubes	291 sq. ft.
Tubes	4,287 sq. ft.
Total evaporative	4,578 sq. ft.
Superheating	1,780 sq. ft.
Comb. evaporative and superheating	6,358 sq. ft.
Tender:	
Style	Rectangular
Water capacity	10,000 gal.
Fuel capacity	16 tons
Special equipment:	
Brick arch	American Arch Co., double arch
Superheaters	Superheater Co., Type B
Feedwater heaters	Superheater Co.
Stokers	Elvin Mech. Stoker Co.
Booster	Franklin Ry. Supply Co.
General data, estimated:	
Rated tractive force, 85 per cent	63,500 lb.; with booster 74,500 lb.
Cylinder horsepower (Cole)	2,824
Boiler horsepower (Cole) (est.)	2,735
Speed at 1,000 ft. piston speed	37.5 m.p.h.
Steam required per hour	58,700 lb.
Boiler, evaporative capacity per hour	56,900 lb.
Coal required per hour, total	9,180 lb.
Coal, rate per sq. ft. grate per hour	138 lb.
Weight proportions:	
Weight on drivers ÷ tractive force	3.86
Weight on drivers ÷ total weight engine	.735
Total weight engine ÷ cylinder horsepower	118
Total weight engine ÷ boiler horsepower	122
Weight per sq. ft. of combined heating surface, lb.	52.5
Boiler proportions:	
Boiler horsepower ÷ cylinder horsepower	96.9 per cent
Comb. heating surface ÷ cylinder horsepower	2.25
Tractive force ÷ comb. heating surface	9.99
Tractive force × dia. drivers ÷ comb. heating surface	630
Cylinder horsepower ÷ grate area	42.5
Cylinder horsepower ÷ net gas area of tubes in sq. ft.	298
Firebox heating surface ÷ grate area	4.38
Firebox heating surface ÷ evap. heating surface	6.36 per cent
Superheating surface ÷ evap. heating surface	38.9 per cent
Tube length ÷ inside diameter	80.5

Engine No. 8000 has been in operation since about the first of June between Detroit and Toledo, and between Toledo and Jackson, Mich. The Michigan Central Railway is preparing to make exhaustive tests of the engine, data from which will be available at a later date. So far the engine has exceeded the expectation of the builders, both in developing high drawbar pull and in economy of operation.

On June 24, 9,254 tons in 138 cars were hauled from Detroit to Toledo, without help, a distance of 47.6 miles in 3 hr. 31 min., no trouble being experienced in starting this train with booster in operation; in fact, for the first 10 miles the tonnage was 9,394 tons in 140 cars, 2 cars being set off on account of hot boxes. On June 30, 10,039 tons were hauled over this division in 147 cars, no assistance being required to start or haul this train.

No trouble has been experienced in maintaining full boiler pressure when operating at maximum capacity.

The evaporation per pound of fuel is phenomenal, as for three of the full tonnage runs made between Detroit and Toledo, the total water divided by total fuel averaged 9.7 lb. which indicates a combined efficiency for the boiler and superheater of about 77 per cent.



Right Side of the Locomotive, Showing Removable Plate Over Superheater Header and Outside Throttle Rigging

Net Increase in Equipment in 15½ Years

A TABLE comparing the number of cars and locomotives installed on the railways of the United States during the 15½ years from June 30, 1907, to December 31, 1921, with the number retired each year has been compiled by the Bureau of Railway Economics from statistics of the Interstate Commerce Commission and annual reports of the roads to the commission for 1921. This shows a net increase of 16,229 locomotives, 13,504 passenger train cars, 581,945 freight train cars and 54,116 company service cars.

EQUIPMENT INSTALLED AND RETIRED DURING THE PERIOD JULY 1, 1906, TO DECEMBER 31, 1921

CLASS 1 RAILWAYS

Year ended	Locomotives: Number installed	Locomotives: Number retired	Locomotives: Net increase or decrease	Passenger-train cars: Number installed	Passenger-train cars: Number retired	Passenger-train cars: Net increase or decrease	Freight-train cars: Number installed	Freight-train cars: Number retired	Freight-train cars: Net Increase or decrease	Company service cars: Number installed	Company service cars: Number retired	Company service cars: Net increase or decrease
June 30, 1907	3,774	36	I 3,738	1,989	41	I 1,948	192,896	1,541	I191,355	11,509	109	I11,400
1908	3,227	1,140	I 2,087	2,183	1,630	I 553	171,556	70,976	I100,580	12,568	5,978	I 6,590
1909	1,549	1,333	I 216	1,786	1,591	I 195	67,925	83,223	D 15,298	7,322	5,341	I 1,981
1910	3,073	1,452	I 1,621	3,505	1,914	I 1,591	134,593	75,652	I 58,941	15,033	6,818	I 8,215
1911	3,694	1,468	I 2,226	4,250	1,701	I 2,549	125,532	68,031	I 57,501	12,931	6,921	I 6,010
1912	2,861	1,858	I 1,003	3,060	1,387	I 1,673	97,972	69,876	I 28,096	10,630	8,800	I 1,830
1913	4,381	2,338	I 2,043	2,823	1,842	I 981	162,670	96,825	I 65,845	13,014	8,507	I 4,507
1914	3,245	1,862	I 1,383	3,629	1,854	I 1,775	150,813	96,985	I 53,828	12,354	8,159	I 4,195
1915	1,114	1,507	D 393	2,664	1,385	I 1,279	86,012	90,347	D 4,335	10,228	11,787	D 1,559
1916	1,475	2,576	D 1,101	1,261	2,156	D 895	88,254	109,996	D 21,742	13,086	13,446	D 360
6 mos. July 1 to Dec. 31, 1916*	993	1,108	D 115	897	1,000	D 103	63,426	53,136	I 10,290	6,986	4,779	I 2,207
Dec. 31, 1917	2,148	1,423	I 725	2,535	1,671	I 864	117,210	62,253	I 54,957	9,445	6,627	I 2,818
1918	2,803	977	I 1,826	1,817	1,051	I 766	65,249	56,024	I 9,225	9,310	5,530	I 3,780
1919	2,062	999	I 1,063	435	670	D 235	76,019	43,274	I 32,745	5,925	4,190	I 1,735
1920	1,017	1,254	D 237	621	885	D 264	36,044	75,197	D 39,153	6,608	5,409	I 1,199
1921	1,206	1,062	I 144	1,633	806	I 827	61,648	62,538	D 890	4,277	4,709	D 432
Total 15½ years	38,622	22,393	I 16,229	35,088	21,584	I13,504	1,697,819	1,115,874	I581,945	161,226	107,110	I54,116
Equip. in service as of Dec. 31, 1921.	Locomotives 65,004			Passenger-train cars 54,331			Freight-train cars 2,346,787			Company service cars 104,385		

I Increase. *D* Decrease. * Obtained by taking one-half of returns reported for the year ended December 31, 1916.

Freight Car Loading

WASHINGTON, D. C.

FREIGHT CAR LOADING during the week ended August 19, the seventh week of the shopmen's strike, showed an increase of 3,639 cars as compared with the week before, to 856,219, in spite of a reduction in coal loading of 2,600 cars. This was within 21,000 cars of the loading during the last week before the shop strike and represents an increase of 41,072 cars as compared with the corresponding week of 1921, although a decrease of 111,884 cars as compared with the corresponding week in 1920. As compared with the previous week, increases were shown in the loading of livestock, forest products and particularly miscellaneous freight, but decreases were shown in the loading of grain and grain products, coal, coke, ore and merchandise. As compared with the corresponding week of last year increases were shown in the loading of all classes of commodities except grain and grain products and coal and there were increases in all districts except the Central Western and the Southwestern. These figures represent the period before the new production resulting from the Cleveland settlement of the bituminous coal strike was attained.

The car surplus continued to decrease during the period, August 8 to August 15, to a total of 140,253 cars, which included only 10,453 box cars and 111,521 coal cars. There were, however, shortages amounting to 37,172 cars, of which 13,215 were in the Southern district and 8,574 in the Central Western district.

The number of cars furnished for coal loading during the week of August 12 was 82 per cent of the requirements, as compared with 86 per cent the week before. The number of cars loaded, however, was greater than the week before, 84,471. The cars required were 143,995 and the cars placed were 118,725.

The percentage of open top cars placed for all kinds of loading was 89 as compared with 87 the week before.

REVENUE FREIGHT LOADED

SUMMARY—ALL DISTRICTS, COMPARISON OF TOTALS THIS YEAR, LAST YEAR, TWO YEARS AGO. WEEK ENDED SATURDAY, AUGUST 19, 1922

Districts	Year	Grain and grain products	Live stock	Coal	Coke	Forest products	Ore	Mdse. L.C.L.	Miscellaneous	Total revenue freight loaded: This year 1922	Corresponding year 1921	Corresponding year 1920
Eastern	1922	10,409	2,779	8,907	1,276	5,640	6,941	65,270	97,529	198,751	.....	.....
	1921	8,932	2,824	40,660	1,056	4,525	2,884	59,164	78,514	.....	198,559	236,017
Alleghany	1922	3,915	3,198	21,806	4,304	2,900	12,549	49,751	78,988	177,411	.....	.....
	1921	3,382	2,592	41,117	2,300	2,284	6,876	44,810	55,660	.....	159,021	204,341
Pocahontas	1922	196	254	21,330	266	1,172	26	4,395	2,560	30,199	.....	.....
	1921	192	214	18,385	95	1,210	4	4,800	3,699	.....	28,599	34,311
Southern	1922	4,024	2,189	15,728	782	17,994	1,038	34,917	33,912	110,584	.....	.....
	1921	3,666	1,894	21,677	270	14,042	167	36,376	30,671	.....	108,763	128,396
Northwestern	1922	15,155	6,813	4,796	1,023	15,285	44,097	29,215	37,316	153,700	.....	.....
	1921	17,388	7,592	8,204	421	10,250	20,584	28,627	34,519	.....	127,585	168,096
Central Western	1922	16,750	11,620	6,357	386	7,263	2,090	31,499	51,317	127,282	.....	.....
	1921	20,456	10,287	18,075	163	6,096	812	31,219	41,959	.....	129,067	131,266
Southwestern	1922	5,444	2,903	3,035	164	7,680	460	14,878	23,728	58,292	.....	.....
	1921	6,050	3,096	4,395	219	6,402	660	15,960	26,771	.....	63,553	65,676
Total western districts	1922	37,349	21,336	14,188	1,573	30,228	46,647	75,592	112,361	339,274	.....	.....
	1921	43,894	20,975	30,674	803	22,748	22,056	75,806	103,249	.....	320,205	365,038
Total all roads	1922	55,893	29,756	81,959	8,201	57,934	67,201	229,925	325,350	856,219	.....	.....
	1921	60,066	28,499	152,513	4,524	44,809	31,987	220,956	271,793	.....	815,147	.....
	1920	41,638	27,098	204,178	16,188	64,850	78,840	203,088	332,223	.....	.....	968,103
Increase compared	1921	.....	1,257	.....	3,677	13,125	35,214	8,969	53,557	41,072	.....	.....
Decrease compared	1921	4,173	.....	70,554	.....	.....	.....	.....	.....	.....	.....	.....
Increase compared	1920	14,255	2,658	.....	.....	.....	.....	26,837	.....	.....	.....	.....
Decrease compared	1920	.....	.....	122,219	7,987	6,916	11,639	.....	6,873	111,884	.....	.....
August 19	1922	55,893	29,756	81,959	8,201	57,934	67,201	229,925	325,350	856,219	815,147	968,103
August 12	1922	57,867	28,370	84,559	8,420	56,163	69,197	230,652	317,652	852,580	808,269	971,269
August 5	1922	58,512	26,507	79,246	8,442	55,898	66,218	229,287	327,241	851,351	786,178	935,730
July 29	1922	59,170	27,104	76,374	9,112	58,197	64,147	234,567	331,062	859,733	795,432	936,366
July 22	1922	57,566	27,455	76,060	9,949	58,512	64,417	239,510	327,655	861,124	788,034	928,418

Compiled by Car Service Division, American Railway Association.

Negotiations for Separate Agreements Fail

Executives of 52 Class I Railroads Which Continued Mediations Unable to Reach Strike Settlement

EFFORTS OF THE EXECUTIVES of 52 Class I railroads to come to some kind of an agreement with their striking shopmen ended in failure on Friday, August 25, when the committee representing the executives which had met with the five train service leaders announced that the conferees had been unable to reach an agreement which was satisfactory to the shop leaders.

The negotiations broke on the usual issue of seniority, and there was again in evidence the lack of desire on the part of the shop leaders to enter into separate agreements.

The railroads offered to take back all the strikers, except such as had been proved guilty of acts of violence and to give them the positions of the same class as those held on June 30 at Labor Board rates of pay and at the same points; as many men were to be put to work before September 1 as possible and all before October 1. The executives' proposal contained the provision: "The relative standing as between themselves, of men returning to work . . . will be restored as of June 30, 1922, and they will be called back to work in that order as defined above." The executives further agreed that if after the men returned to work there remained any unsettled disputes that could not be adjusted by the carrier and the employees they should be referred to a commission consisting of the five train service brotherhood leaders and five executives, decision to be by majority vote. The agreement offered was with the understanding that "the terms shall be carried out by the officers of the companies and the representatives of the employees in a spirit of conciliation and sincere purpose to effect a genuine settlement of the matters in controversy." The railroads were, however, unable to agree to any program or method of adjustment which could affect the privileges of employees of the shop-crafts who did not take part in the strike or those who had been employed since July 1.

The shop leaders did not find these concessions sufficient. Their rejection of the executives' offer was on two grounds—one relative to seniority and the other for the reason that to accept the terms of these roads would result in the desertion of the men on the other roads not involved in the discussion with the group of 25 systems. Their communication embodying the rejection said: "To accept or submit for acceptance the present proposal that carries no visible guarantee or assurance of protection of the rights or standing of the men as railroad employees held by them prior to strike and learned by years of continuous and efficient service, would mean that we ask the men on less than one-third the roads affected to return to work yielding to every demand of railroad management, receiving only such standing as employees as might be granted by managements after their return or later determined by the commission provided for in the proposal. . . ."

Negotiate With Brotherhood Leaders

Following the general meeting of the member roads of the Association of Railway Executives on Wednesday, which, by a vote of 254 to 4, had reaffirmed the executives' previous stand on seniority, 25 or more roads—representing with subsidiaries 52 Class I carriers—continued negotiations with the five brotherhood leaders.

These roads announced, as was reported in last week's *Railway Age*, that they proposed to make no agreement which would contravene the seniority stand of the association as a whole. It was stated that these lines were in a position to take back all of their men who had been on strike. The conferences with the five train service leaders, acting as mediators, began Wednesday evening. They continued all day Thursday and broke up about Friday noon, with the announcement that the results had been nil.

The carriers, in what came to be called the "rump convention," were represented in the conference by a committee of five. The chairman was Daniel Willard, president of the Baltimore & Ohio, and the other four were Charles Donnelly, president of the Great Northern; N. D. Maher, president of the Norfolk & Western; A. H. Smith, president of the New York Central, and Hale Holden, president of the Chicago, Burlington & Quincy. Others of the executives joined in the discussion. The train service leaders were the same five that conferred the preceding week with the committee representing the executives as a whole.

The first official announcement that the conferences, like the other conferences preceding them, had resulted in failure was contained in a statement by Daniel Willard, chairman of the executive committee. It was followed by a statement of the train service leaders issued in the form of a communication to the executives and the shop leaders. The shop leaders also made public a report which they were about to send to their rank and file. The report reviewed the situation as a whole. It said that the shopmen had gone the full limit in the interest of peace. It concluded with this statement: "If we must fight, we'll show we know how. Now that the issue is again clearly defined and false hopes of early peace dissipated, the fight must be renewed with increased vigor and every man must do his full part to bring it to an early and successful conclusion. What will be your answer to the challenge?"

Would Take Back All Employees

The statement issued Friday by Daniel Willard, president of the Baltimore & Ohio and chairman of the committee representing the 25 roads, reviewed the situation as follows:

Following the general meeting of the Association of Railway Executives held in New York day before yesterday, a group of railroad presidents representing 52 companies with an aggregate mileage of 85,000 miles of line, continued in conference with the leaders of the five train and engine men's brotherhoods who had been acting as mediators for a further discussion of the shop crafts' strike. Conferences between a small committee representing these railroads and the brotherhood chiefs were held at the Yale Club, New York City, Wednesday evening, during a large part of Thursday and this forenoon. These railway executives, mindful of the increasing demands for transportation incident to the season of the year and anxious on that account to do everything that might be possible and practicable to bring about a settlement of the existing controversy, were hopeful that a further discussion might develop some plan or method for settlement which would not require the sacrifice of principles deemed fundamental by either party to the controversy.

Having in mind the normal requirements of the carriers for men of the shop crafts at this season of the year, together with the increased requirements resulting from a reduced working force for nearly two months, these companies, while unwilling to agree to any program or method of adjustment which would affect the rights or privileges of employees of the shop crafts who did not take part in the strike or those who had been employed since July 1, were willing to pledge themselves to find employment for all of the striking employees not guilty of proven acts of violence at their usual class of work, at the rates of pay fixed by the United States Railroad Labor Board and at the same terminal point.

With this important phase of the controversy disposed of there remained only the problem of reaching an understanding concerning the future relations between the railroad employees themselves

and between the employees who had been on strike their employing companies.

The railroads disclaimed any desire to take advantage of the situation to curtail the pension rights or other privileges which the striking employees had earned by virtue of their term of service with the company and the roads in this conference agreed to take back all employees with such privileges unimpaired. These railroad companies felt at liberty to do this because such action on their part would not in any way affect or prejudice the rights or privileges of others who did not participate in the strike.

The railway executives also agreed that if after the men returned to work there remained any unsettled disputes growing out of the situation which the companies and the representatives of the employees were unable to settle in direct conference, such matters should be referred for final determination to a commission of ten members to be made up of the chief executives of the five train and engine men's brotherhoods who were acting as mediators, and five railway executives experienced in matters such as would naturally come before a committee of that kind.

The railway presidents also proposed that if an agreement could be reached along lines substantially as indicated above, they would endeavor to carry out the agreement in a spirit of conciliation and sincere purpose to effect a general settlement of all matters in controversy resulting from the strike. The railway executives were certain that, while making substantial concessions to the men on strike, such a settlement as proposed would in no way sacrifice the rights or privileges of the loyal men now employed on the properties represented.

The committee of mediators worked earnestly and helpfully with the carriers in an effort to bring about an acceptable adjustment. The railway executives who took part in the conferences sincerely regret the representatives of the striking employees, although definitely assured the substance of all that they asked for, were unwilling to agree to a settlement except under conditions which the railway executives were unwilling and unable to accept.

It is difficult to imagine any fairer basis of compromise than the one developed at yesterday's conference and agreed to by the carriers represented. It must be assumed, therefore, that the present controversy cannot be settled by that method.

52 Class I Carriers—85,000 Miles of Line

The following railroads participated in the conference and agreed to the proposition submitted by the carriers and declined by the striking employees.

Alabama & Vicksburg
Baltimore & Ohio
Buffalo, Rochester & Pittsburgh
Chesapeake & Ohio Lines
Chicago & Northwestern
Chicago, Burlington & Quincy
Colorado & Southern
Wichita Valley
Fort Worth & Denver City
Chicago, Indianapolis & Louisville
Chicago, Milwaukee & St. Paul
Chicago, Rock Island & Pacific
Chicago, St. Paul, Minn. & Omaha
El Paso & Southwestern
Erie
Hocking Valley
Lake Erie & Western
Louisiana & Arkansas
Minneapolis & St. Louis
New York Central Lines
Cleve., Cin., Chicago & St. L.
Michigan Central
New York Cent. incl. B. & A.
Pittsburgh & Lake Erie
New York, Chicago & St. Louis
Norfolk & Western
Norfolk Southern
Northern Pacific
Seaboard Air Line
Trinity & Brazos Valley
Virginian
Wheeling & Lake Erie
Winston-Salem Southbound

[The foregoing list does not include the names of subsidiary companies.]

Report of the Mediators

The train service leaders on Friday addressed a communication to Chairman Willard and to Bert M. Jewell, president of the Railway Department of the American Federation of Labor. The statement was signed by L. E. Sheppard, president of the Order of Railway Conductors; W. N. Doak, vice-president of the Brotherhood of Railroad Trainmen; W. S. Stone, grand chief of the Brotherhood of Locomotive Engineers; D. B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen, and T. C. Cashen, president of the Switchmen's Union of North America.

The communication said:

The undersigned together with the chief executives of the other standard recognized railroad labor organizations not on strike, on invitation of the representatives of the shop men and others on strike which began July 1st last, offered their good offices as mediators in the controversy with the hope that a mutually acceptable settlement might be reached with regard to the one particular question which seemed to be the only stumbling block, viz.: The fundamental rights of men on strike and their seniority standing when they resumed work.

The offer was accepted and an interview was sought with President Harding and conferences with the President were held on the 12th inst., the question being presented to him from all angles. The President met a committee representing the Railway Executives' Association following his meeting with us on the 12th He also met them on Sunday, the 13th, but no progress toward settlement was made, but we were advised from the White House that the committee representing the railway executives were willing to meet the chief executives of the train and enginemen's organizations since which date mediation has been conducted by those whose signatures appear hereto.

The nine chief executives also met President Harding on the afternoon of the 14th and inasmuch as nothing had been accomplished at the Washington meeting the mediators came to New York and conferred with a committee of the railway executives on the 17th and 18th insts., but these efforts brought no satisfactory results.

Fully appreciating the seriousness of the situation confronting the people of the United States and with the determination to use every possible effort and every ounce of energy at our command we requested a conference with the entire body comprising the Railway Executives' Association which was at once arranged for, to be held in New York the 23rd.

At this meeting we presented the subject as briefly but as explicitly as we could, and made a recommendation for consideration by the entire body. Coupled with the recommendation was a request that if it were not accepted we would be glad to meet such members of the executive association as might look upon it with favor, or who would meet with us in further efforts to reach a solution of the problem. We were later advised that the recommendation was declined practically unanimously but that the chief executives representing 52 railroads with approximately 85,000 miles of track, were willing to meet us to give further consideration to the subject.

Conferences with a committee consisting of six railroad presidents, representing this group, were held on the evening of the 23rd, also two conferences on the 24th and again this morning, without avail.

While our conferences with both sides were most pleasant, we found we could not present a recommendation acceptable to both, because both parties insisted throughout that their respective contentions were based on principles which could not be set aside and which must be observed at all cost.

We reluctantly notify all concerned that we consider further efforts futile and with much regret announce that we have nothing more to suggest.

Shop Crafts Strike Committee Reports to Men

The report of the conferences sent out to the rank and file of the striking shopmen by the shop crafts strike committee was a detailed review of the situation as a whole, having special interest because it contained the text of the railway executives' offer and the shopmen's reply. The report follows:

In accord with our previous information to you the Railway Executives' Association met in New York City on August 23 in response to call of its executive committee to consider the proposals made on our behalf by the chief executives of the transportation organizations acting as mediators. . . .

After lengthy argument to the effect that a solid front on their part would break the morale of the men on strike and they would flock back to work, the executives voted to reaffirm their declaration of August 2—when in reply to President Harding they stated that they would not agree to the strikers returning with their seniority and other rights unimpaired.

However:—Within 24 hours after this declaration was adopted the executives of 52 Class I roads from the big meeting were giving consideration to ways and means of reaching a settlement without stating that they yielded on the seniority question. We may well question the good faith of any statement that they wished to really give the men their seniority rights as they positively refused to agree to a proposition that all strikers be *reinstated* claiming that reinstatement carried with it all seniority and other rights.

Several conferences were held, the mediators going from one meeting to the other, covering three days, with night sessions by both parties. Out of these sessions there developed the following as the final and maximum offer of the railroad executives.

Text of Executives' Maximum Offer

"1. In order to bring to an end the existing strike of shop employees upon the undersigned railroads and relieve the country from the adverse defects thereof and to expedite the movement of essential traffic, the following memorandum of agreement is made upon the understanding, which the parties hereto accept, that the terms hereof shall be carried out by the officers of the companies and the representatives of the employees in a spirit of conciliation and sincere purpose to effect a genuine settlement of the matters in controversy referred to below.

"2. All men to return to work in position of the class they originally held on June 30, 1922, and at the same point and as many of such men as possible are to be put to work September 1 at present rates of pay and all employees who have been on strike to be put to work or under pay not later than October 1 next, except such men as have been guilty of proven acts of violence.

"3. The relative standing as between themselves, of men returning to work and men laid off, furloughed or on leave of absence, including general chairmen and others who were as of June 30, 1922, properly on leave of absence, will be restored as of June 30, 1922, and they will be called back to work in that order as defined above.

"4. If a dispute arises as to the relative standing of an employee or employees or if any other controversy arises growing out of the strike that cannot be otherwise adjusted by the carrier and said employee or employees, the matter shall be referred by the organizations parties to this agreement, the employees or the carrier in the interest of any employee who may be aggrieved to a commission to be established and constituted as hereinafter provided, for final decision by a majority vote.

"5. The commission referred to in paragraph 4 hereof shall be composed of the five chief officers of the train service brotherhoods and five railroad officers, experienced in matters of this kind and selected from among the railroads agreeing hereto. This commission shall be constituted forthwith upon the signing of this agreement and shall have jurisdiction to decide all cases that may be referred to it on or before May 21, 1923, but not thereafter.

"6 Inasmuch as this agreement is reached for the purpose of composing in a spirit of compromise this controversy with those crafts on strike on the railroads signing same, all parties hereto agree that neither this settlement nor any decision of the commission above provided for shall be used or cited in any other controversy between these parties or between the railroads signing the same or any other class or classes of their employees in any other controversy that may hereafter arise.

"7. Both parties pledged themselves that no intimidation nor oppression shall be practiced or permitted against any of the employees who have remained at work or have taken service or against those who resume work under this understanding.

"8. All suits at law now pending as the result of the strike to be withdrawn and cancelled by both parties."

Reply of Shop Craft Representatives to Proposal Submitted by Committee of Railroad Executives

After fully discussing every possible angle and phase of the situation the following reply was made:

"We have the proposal providing the terms which are suggested as a basis on which only part of the men on strike on certain railroads may return to work. Consideration of a proposal of this nature must necessarily embrace a serious consideration of the cause of the existing conditions and all matters leading thereto, as well as the effect of any steps taken at this time, as they will affect the welfare of the men involved and the peace, stability and efficiency in the railroad industry.

"The strike occurred because of conditions intolerable to the men, coupled with excessive reductions in wages. In accepting the proposal of President Harding, of July 31 of this year, the representatives of the men involved agreed to resumption of work without a settlement of either of the two remaining issues that were originally involved in the difficulty, namely those concerning wages and working conditions. In agreeing to resume work, and leave these matters to the Railroad Labor Board for rehearing, the men made all the concessions that should be required or expected of them in the interests of peace in the industry—the other issue involved in the strike, that of contracting out of shops and work, having been declared illegal by the Railroad Labor Board and all other government authorities that considered the matter. The question of the standing of the men on strike as railroad employees was not an issue until injected by the railroad managements, and only became an issue when railroad managements refused the terms of agreement proposed by President Harding.

"To accept or submit for acceptance the present proposal that carries no visible guarantee or assurance of protection of the rights or standing of the men as railroad employees held by them prior to strike and earned by years of continuous and efficient service, would mean that we ask the men on less than one-third of the roads affected, to return to work yielding to every demand of railroad management, receiving only such standing as employees as might be granted by managements after their return or later determined by the commission provided for in the proposal, and that the employees of less than one-third of the mileage now involved returning to work under such conditions, would leave the remaining employees of more than two-thirds of the mileage out of railroad employment and by returning to work would in that measure destroy the effectiveness of the strike as of today. Even on the roads represented the proposal does not contemplate the return to work of all men on strike. It only includes those who come under the heading of shop crafts, while it is known and agreed that many men other than those coming under this designation are at present on strike.

"There is no intent on our part to question the integrity of the officials of the roads now conferring, but it must be obvious to all that definite action can be taken only on matters clearly defined in any proposal made. Our first concern must be the interest of all the men involved. We, the representatives of the men on strike, cannot recommend to the men the acceptance of this proposal without deliberately sacrificing the interests of the men involved. We fully appreciate the help, interest, and efforts of the transportation organization executives in their capacity as mediators, and we regret it if compelled to report to our people that their splendid efforts failed, because of the arbitrary position taken by the carriers, to produce some clear concrete proposition that we can present to and conscientiously present to the men we represent for acceptance."

Conditions Favorable for Success, Say Leaders

The leaders of the so-called stand-patters among the executives have boasted that as soon as the men see how competent the roads are they would come running and crawling back begging for their jobs under any conditions that the executives chose to make.

We believe the railway executives are mistaken, and this mistake is in some measure due to the fact that the news of the conference and of possible peace have deterred our membership from actively prosecuting the strike, and the executives mistake this well intended inactivity for apathy and indifference. Despite the boast of the executives, we know, and government reports show, that the number of bad order cars and engines is increasing daily and at an alarming rate. With honest and adequate inspection enforced the number would be doubled overnight.

The best trains on all roads are arriving later each day, accidents due to defective equipment are increasing and causing public alarm and attracting government notice. The strike is just now becoming really effective.

The coal miners have just won their fight lasting 20 weeks. The coal dug will be an added burden to be carried by the roads. The textile workers of Lawrence, Mass., have just won their three-months' strike against reduction in their wages. The labor union crushers are having poor luck in their country-wide campaign. All industry is on the up-grade. Material of all kinds is in demand and the harvest must be moved.

If there was ever a strike that had every favorable condition surrounding it, this is it. If this can be lost now, no strike could ever be won.

Roads Declined to Desert New Men

Daniel Willard, president of the Baltimore & Ohio and chairman of the group representing the 52 roads willing to make a separate settlement, in a statement issued Monday, supplemented the report of the conference which he issued after its close on Friday. In this statement he included the following:

Having in mind the normal requirements of the carriers for men of the shop crafts at this season of the year, together with increased requirements resulting from a reduced working force for nearly two months, these companies were willing to pledge themselves to find employment for all of the striking employees not guilty of proven acts of violence, believing that the requirements of the situation would afford ample work for all for many months to come. It should be clearly understood, however, that at no time did any of the railroad presidents agree, nor would they agree, to make any settlement that would in any sence adversely affect the rights or the privileges of the old men who did not go on strike, or the new men who had been hired since the strike began. . . . .

The railway managers felt that the seniority rights which had been gained by the employees who remained in the service under well established rules were as much a part of their compensation as the money which they had received in wages, and they were not willing, under any circumstances, nor did they feel they had a right, morally or legally, to take from the men who had remained at work any part of their compensation, whether represented in money earned or privileges acquired. I think it must be admitted that the railroad executives of the minority group in their efforts to reach an agreement made every reasonable concession possible in order to accomplish that result. They were not willing, however, to look upon their promise to the men already in the service, whether the promise was verbal or in writing, as a scrap of paper to be thrown aside at will. Short of that one thing, they were willing to grant every other concession which the men requested. It must be apparent, therefore, that no compromise settlement of

the situation is possible unless the railroad executives are willing to accept the policy that a promise or contract is something to be broken and not something to be kept.

Why Were the Concessions Rejected?

Observers profess to find it difficult to understand the unwillingness of the shop crafts leaders to accept the concessions offered by the group of 52 railroads. The shop leaders' rejection of the offer was apparently predicated on two grounds. One was that the concessions were in such form as not to concede to the strikers the entire seniority issue. The other—and there are many who give this factor increasing importance—is the lack of desire on the part of union leaders to make anything but a national settlement of the strike. The impression is that the shop leaders are gambling on the hope that equipment deterioration or congestion will continue to increase until the public becomes aroused or until conditions otherwise become so acute that the railroads will have to submit as a whole, the weaker roads requiring the other roads to come in with them on a national agreement.

It is also pointed out that for the shop leaders to have agreed to settle with the 52 roads would have been an admission of defeat not only as relates to the other roads not parties to the settlement, but as relates also to the broader issues of negotiations on a national basis, national agreements, etc., which have played leading parts in the shop crafts' program. The view expressed in the strike committee's statement to their rank and file reflects this view in that it mentions the idea that to give in to one-third the roads would mean the desertion of the men on the other two-thirds of the roads. This feature of the shop leaders still adhering to their desire for a national settlement is given great importance in many quarters. Many who earlier in the strike expressed the opinion that it was a strategic mistake from the union's point of view to have called a strike at all now supplement this opinion with the belief that the rejection of the offer of the 52 roads last Friday was a similar strategic mistake.

With reference to the mistake embodied in the strike call, they have hitherto pointed out that the inadvisability of the strike was promptly shown by the manner in which the original issues in the strike were dropped and made secondary to a new issue—seniority. The new development resulting from the rejection of the possibility of separate settlements is the opinion that the shop leaders are continuing to play a losing game. The idea is expressed that the number of roads that are in a position to take back all of their strikers is steadily decreasing as recruiting continues. Some of the roads are in a very good position and as time goes on they are reaching a better position and, in addition, are being joined by other roads which earlier in the strike and for one reason and another did not have a great success in bringing their forces up to normal.

The roads that are in most favorable condition are now at the point where they have established company unions or where they are in a position which approaches open shop conditions. It is very difficult to believe that conditions on these roads will do else than improve, in which case the effect on the shop unions will be decidedly adverse. Analysis of conditions such as these, the observers believe, indicates that Jewell and his strike committee would have made much the wiser decision had they secured such settlements as they could have made and salvaged as much as they could of the structure which they have now succeeded in tumbling about their heads. The impression on the part of these observers is that, at least, the shop strike committee is following very poor strategy. Some of the observers go so far as to declare that the shop leaders are carrying out a program which will prove detrimental to later unionism as a whole, simply in order to save their own faces in the situation which has arisen. One executive to whom these ideas were taken supplemented them by saying that it was his belief that before the thing was over the railroad shop unions would be back where they were 25 years ago and that by their unskillful activities they would have lost all the gains which they succeeded in securing over a long term of years and during Federal control in particular.

It is a general opinion that a compromise settlement of the strike has now become no longer possible. The strikers' leaders still express optimism—in public, at least—and speak with a measure of enthusiasm of the spirit which existed among the strikers in the East, as well as in the West. The executives, however, are more inclined to believe that developments will result in the gradual dying out of the strike, rather than in a settlement of it. In other words, they expect that forces will gradually be recruited to normal and the strikers finally will either return to work or seek employment elsewhere. This would have been possibly a too optimistic view even one week ago, but every tendency at present seems, it is believed by observers, to be in that direction.

Some Delays to Fast Freight

As the strike closes its ninth week, there is evidence that the walkout of the shopmen is having some effect on railway service, although, in general, reports are that in most centers conditions are gradually improving. Passenger trains, however, are still running late on many roads; fast freight service is not being handled absolutely on schedule and there has been congestion—in most cases temporary in character—at various terminals. Investigation shows that perishables and live stock from Chicago, which should be given third-morning delivery at New York, are arriving one day behind schedule. Other fast freight between Chicago and New York has a schedule calling for fourth-morning delivery at New York; this schedule is not being met. In the case of slow freight service congestion is reported at various places, but on the whole complaints of delayed movement are not being heard as yet in sizeable quantity. It is to be presumed that the delays to passenger and fast freight trains result to some extent from engine trouble, although it is difficult to determine how much may be due to that cause and how much to increasing demands for transportation service.

It is pointed out, however, that in the majority of instances traffic is being handled without undue difficulty, and certainly with less difficulty than the recent complications of strike and increasing traffic might be expected to warrant.

Federal Inspection Shows Equipment in Good Condition

The report of the condition of locomotives made by the Bureau of Locomotive Inspection of the Interstate Commerce Commission, as reported to the Senate on Tuesday, showed that the statements given out by the labor leaders to the effect that equipment was being operated in unsafe condition are wholly without foundation. The inspectors examined 4,885 locomotives at 717 different points. Of these, 2,456 showed conditions that are noted as defects under the Inspection Act. Only 169 were found to be not safe to operate and were ordered taken out of service. Of the remainder, the report stated that 992 locomotives had more or less serious defects and 1,295 had defects which would not give cause for immediate concern, but, in ac-

cordance with sound mechanical practice, should undergo repairs.

In reporting the results of the inspection the commission said: "The reports of our inspectors indicate a very general let-down in the matter of inspection by the carriers, which gives cause for concern." The opinion was expressed by one mechanical officer that it is hard to see how the commission reached this conclusion from the reports of its inspectors if any comparison was made with the reports for preceding years. The per cent of locomotives found to have minor defects in July of this year was 60.1, which is not much higher than usual. In the fiscal year 1918-1919 the percentage was 58; in 1919-1920, 52, and in 1920-1921, 49.7. If the roads were using equipment in unsafe condition, it would certainly be disclosed, it is pointed out, by the per cent ordered out of service. The reports for July show that 4.14 per cent of the locomotives inspected were ordered out of service, but in 1920-1921 the inspectors condemned 6.44 per cent; in 1919-1920, 7.65 per cent, and in 1918-1919, 7.41 per cent of the locomotives inspected. This is considered as indicating conclusively that fewer locomotives are being operated with serious defects at the present time than has been the case in previous years.

Locomotives to Be Repaired by Industrial Concerns

A new development in the strike during the past week or two has been the placing by various roads of contracts for equipment repair work with outside industrial concerns other than the regular car and locomotive builders. In most cases these contracts to outside concerns supplement repair work done in the railroad's own shops and repair contracts lately let to the regular builders.

One road which has entered upon an extensive program of this kind is the Erie. That road has recently been reported as having contracted with the Baldwin Locomotive Works and the American Locomotive Company for repairs to locomotives. It has let a number of contracts for heavy car repairs with various car-building plants and is about to let further contracts which will bring the total number sent to outside shops to 8,800. The new development is the sending of locomotives to industrial plants for heavy repairs. The Erie requires heavy repairs to about 75 locomotives monthly. Its own shops are now turning out about 25 monthly. The locomotive builders and the other industrial concerns which are undertaking to do locomotive repair work will take care of 50 more, with the result that the requirement of 75 will be met irrespective of whether improvement in the strike situation continues or not.

Other roads are understood to be taking care of part of their locomotive repair requirements similarly.

Buffalo & Susquehanna Offers Seniority

The Buffalo & Susquehanna, in a letter signed by President E. R. Darlow and dated August 24, has added its name to the list of roads willing to make a separate settlement and because it has as yet made no attempt to fill the places of its strikers, it is able to concede the seniority issue. The letter addressed to the former shop employees, said:

About four-fifths of the traffic of the Buffalo & Susquehanna being coal and coke, and there having been practically no such traffic since April 1, as a consequence of light earnings, it had been necessary to reduce the force prior to July 1, and when the shop crafts' strike came, it anticipated a further reduction of the forces for the same reason. Because of the absence of this traffic, and having in mind the fact that a majority of our employees are permanent residents of Galeton, many of them owning their own homes, the management did not take any steps to employ new men; and as all of the old men left the service, the question of the seniority status of such men as may come back into the service is not affected by the status of men who remained in the service or were employed subsequent to the strike; so that the former employees are now out of service because of a failure to settle a dispute on other railroads which has no application to this railroad.

6,499 Men Recruited on August 26

The total number of shopmen recruited by all the country's railroads on August 26 totaled 6,499, which was the largest number of men recruited on any single day since the beginning of the strike. The total exceeded by 624 the recruiting for the best previous day. Several railroads report that a large number of their new recruits are union men on strike on other roads. The forces in some of the shops are reported as having a percentage of 50 per cent of strikers from other roads.

Shop forces on the Eastern roads were reported as having reached 74.9 per cent of normal on August 25, this being a gain of 6,145 over the preceding week. L. F. Loree, president of the Delaware & Hudson, in his capacity as chairman of the Eastern Presidents' Conference, issued a statement following a meeting of the conference on Monday, as follows:

"The railroads in the Eastern district report their shop forces for the past five weeks to have been as follows:

	Number	Per cent	Weekly gain
July 28	97,724	62	.....
Aug. 4	103,528	64.7	5,804
Aug. 11	111,324	69.0	7,796
Aug. 16	115,745	71.5	4,421
Aug. 25	121,890	74.9	6,145

"About 40,000 additional men will be required to bring the force up to the full roster of July 1. It is conservative to say that in four or five weeks all the places will be filled, even were the men now on strike not to seek re-employment. With the present force working 60 hours a week, as against the old force working 40 hours a week, the roads are getting more than a million man-hours of work more now than they were before the strike.

"The constant criticism of railroad operations has had the effect of preventing their really fine performance from being recognized. Last week they moved all the coal offered, about 54 per cent of a normal production. They moved 10 per cent more traffic than in the corresponding week in July. They had 4,918 locomotives in good order stored ready for service and 153,880 surplus freight cars on hand in good order. This was for the whole country. The situation in the East was better than the average."

The number of shopmen reporting for duty on the Pennsylvania System on August 29 rose above 93 per cent of a full normal working force. The reports from all regions show 51,132 men on duty, an increase of the past week of 827, and a gain as compared with the low point of the strike which was reached July 5, of 12,847.

The Erie on August 29 had 7,196 shopmen at work, 68 percent of its force on June 30, prior to the strike. The total includes 2,074 men who did not go on strike and 325 strikers who have returned to their jobs.

The Baltimore & Ohio, which was one of the roads which held the strikers' places open for some time after most of the other roads, but which began to fill them after negotiations looking to a separate settlement failed, reported on August 28, 60 per cent of a normal force. At Mount Clare shops 1,600 men are employed and something over 50 per cent of normal heavy repairs were turned out during August. The Baltimore & Ohio is still having difficulties handling traffic and has diverted considerable business to other roads.

Southern Has 36 Per Cent Normal Forces

The Southern Railway, which did not begin recruiting to fill the places of its strikers until August 15, reported on August 24 that it had 36 per cent of a normal force. In a statement issued August 24, President Fairfax Harrison said:

"Since we began recruiting August 15 the Southern Railway system has every day added to the skeleton force it had in its shops and round houses and now has all told 4,165 shopmen at work. This is 36 per cent of a normal force, but, what is more important, there are at work 20 per cent of normal roster of skilled craftsmen. All new men are rigidly examined for mechanical ability before they are employed, but there seems to be no lack

of candidates able to pass the tests, especially since the failure of the last negotiation for settlement of the strike. More new men will be added every other day."

Strike Conditions in Western Territory Show Continued Improvement

Continued improvement in conditions resulting from the shopmen's strike has been reported by practically all of the western carriers during the past week. The western lines on August 25 reported that 88,911 men were employed in their shops, an increase of 30,838 men since August 1, when the number employed was 58,073. The shop forces on that date were approximately 56 per cent of normal, the total number of shop employees on the western lines before the strike began being about 159,000, according to the Western Presidents' Committee on Public Relations.

"As these figures show," an announcement made on August 27 said, "there is a steady increase in the number of men at work. There are a few places where service is being interfered with by walkouts of employees in violation of their contracts, but it should be noted that the real interferences with operation are not due to the shop employees' strike. Except where these conditions exist the railways are handling all the traffic offered and on almost all western lines car loadings are substantially larger than they were a year ago or than they were this year before the shop employees' strike began."

The last week has not been without the usual quota of rioting, slugging, bombing and attempted intimidation directed at both the men now at work in the shops and members of the train service organizations who are free to determine whether or not their work now involves additional hazard. While the damage both personal and property from these outbreaks has been considerably smaller than it has been in previous weeks, this has been due more to fortunate circumstances than to any change on the part of those bringing about the disturbances.

Interest has been centered during the past week on the Chicago & Alton because of trouble at several small terminals. For some time minor disturbances have been reported at Roodhouse, Ill., on that road, culminating on August 25 in the attempted bombing of railroad property there. As a result of these developments members of the train service brotherhoods, particularly the trainmen and firemen, refused to continue work on the ground that these conditions made their work unsafe. Their action temporarily tied up the road and resulted in practically isolating Roodhouse and the surrounding villages. No serious inconvenience was caused, railroad officers handling the only passenger trains affected to other division points from which they continued to their destinations. The walkout did, however, result in curtailing both freight and passenger train movements and necessitated the rerouting of traffic for several days. The trouble at Roodhouse was ended on August 29 when members of the striking brotherhoods agreed to return to work after the national officers of the trainmen's and the engineer's organizations had instituted investigations of the unauthorized walkout and the trainmen were threatened with the loss of their union charter.

The agreement under which the strike at Roodhouse was ended provided that for the present night work would be eliminated as far as possible and that the men would not be required to take out locomotives which they believed to be defective.

Another cheerful report told of the end of the sporadic strike of train service employees at Joliet, Ill., on the Elgin, Joliet & Eastern. This settlement was based on the offer made to the strikers two weeks ago to the effect that the state militia on guard there should be withdrawn a short distance from the gates leading to the shops.

Similarly, train service employees of the Missouri Pacific who have been on strike at Jefferson City, Mo., agreed to return to work after having been out for several days. At Slater, Mo., where the train service employees of the Chicago & Alton have been out since August 26, conferences are being held and it is expected that the men will return to work immediately.

While the reports of settlement of these unauthorized walkout have exceeded the announcements of new moves of a similar nature, there are still several points in western territory where the men have either left the service or are threatening to do so.

The bombing of railroad property and the homes of loyal employees continues to be a pastime of strikers or strike sympathizers. Among the reports of this character which have appeared in the press during the past week are the following: a Chicago, Burlington & Quincy bridge at Spanish Lake, Mo., the Chicago & Alton shops and roundhouses at Roodhouse and Venice, Ill., the bridges of the same road near Roodhouse, the shops of the Chicago & Eastern Illinois at Danville, Ill., and the homes of loyal employees at Garrett, Ind., San Barnardino, Cal., and Montgomery, Ala.

Rioting, slugging and various forms of attempted intimidation have likewise been reported at New Orleans, La., where an Illinois Central work train was stoned, and at Herington, Kans., Shawnee, Okla., Little Rock, Ark., and Garrett, Ind.

Frequent reports of attempts to wreck trains have been made during the past week from various points in western and southern territory, but fortunately none of these attempts have resulted in great damage or in loss of life. Attempts to destroy property by bombing were reported at Sheboygan, Mich., Baring Cross, Ark., and Princeton, Ky.

Conditions on the Western roads were described on August 30 by the Western Presidents' Committee on Public Relations as follows:

"The opening of the coal mines in this territory has been followed by a relatively very large increase in the amount of coal being moved by the railways. The Illinois Central, the Chicago, Burlington & Quincy and the Chicago & Eastern Illinois under normal conditions originate a large coal traffic. The total amount of coal loaded by these railways on August 22 was 1,202 cars. On August 26 this had increased to 2,679 cars and on August 29 to 3,924.

"The Western railways continue to report substantial increases in the number of men at work in their shops. The number of shop employees on August 29, the latest date for which the figures are available, was 92,229, an increase of 34,154 men since August 1. The number of shop employees of the Western railways is now 59 per cent of what it was before the shop employees' strike began."

Men Arrested in Connection with Gary Wreck

Four striking shopmen are under arrest and two others are being sought in connection with the Michigan Central express train wreck at Gary, Ind., on August 19, as reported on Page 392 of the *Railway Age* of August 26. Since the wreck, Federal, State, city and railroad police have been working on the case, and it is reported that the $5,000 reward offered by the Michigan Central for information which would lead to the arrest and conviction of the men responsible for the wreck resulted in a tip to the offices of the railroads' police forces which led to several arrests.

It is reported that a confession has been obtained from one of the men under arrest, in which he alleged that leaders of one of the shop craft local organizations told the men to "go out to Gary or somewhere in that neighborhood and jimmy up the track to cause trouble and make it appear that equipment is in bum condition and that it is dangerous for train crews to ride trains." According to the report, this man also claimed that plans had been made to wreck the Twentieth Century near Elkhart, Ind. These developments are being watched with interest by railroad officers.

M. of W. Employees Demand 48 Cent Minimum Rate

Labor Board Refuse E. F. Grable's Request for Approval of the "Living Wage" Principle

A DEMAND that the Railroad Labor Board immediately adopt the principle of the "living wage" and that the minimum rate of pay under this principle be set at 48 cents an hour, was served upon that body at the opening of the hearing on the wages and working conditions of maintenance of way employees on August 28. E. F. Grable, president of the maintenance of way employees' organization, and W. J. Lauck, "economist" for that organization, presented the demand, the former inferring that it must be met "regardless of all other considerations," and the latter analyzing the Transportation Act in an effort to prove that the term "just and reasonable wages," as used therein, was meant to be and is synonymous with a "living wage."

Mr. Grable, in opening the case for the maintenance of way men, painted a picture of the "dismal and hopeless" lives that the members of his organization have been forced to lead and their "struggle for actual existence" under the rates of pay fixed by the board, adding:

"These conditions cannot longer continue. If the board is to measure up to the standards of justice and equity upon which it was founded, it cannot give further sanction and approval to such conditions. To do so, would make it a by-word among railway employes. It would become the symbol of shame and hypocrisy —a mockery of justice. No matter what the financial condition of the railways may be; no matter what the alleged problems of post-war reconstruction, deflation, or railway financial rehabilitation may be, the necessity of the maintenance of way employes receiving living wage cannot be longer evaded or ignored.

"Our primary object in appearing before you today is not, therefore, to enter into any abstract argument as to the principle of the living wage. On the contrary, we assert our right to a living wage. We now know that the Transportation Act guarantees us this right. We are asking you merely to comply with the law, and to give us what according to the law is ours and of which we have been deprived during the past two years. Our conviction is, in the light of developments since we last appeared before you, that if we are again denied a living wage, that it will be incumbent upon this Board to demonstrate to the Chairman of the Senate Committee on Interstate Commerce, and to the President of the United States why it is not applying the law according to the purpose and intent of those who framed it. We are convinced that it is no longer a matter of argument but the plain duty of the board to accept and give a practical application to the living wage principle."

The board, Mr. Grable charged, has taken the "standards of compensation as it found them to be just, reasonable and adequate," and has merely increased or decreased these rates as the cost of living rose or fell. This, he contended, proves that "there has been no recognition of the 'living wage' in principle." To support his contention that the board has erred in not recognizing this principle, Mr. Grable said: "Senator Cummins, chairman of the Senate Committee on Interstate Commerce and the author of the Transportation Act, has publicly declared that it is the intent of the law to give the humblest worker the right to a living wage and, in order to avoid any possible misunderstanding or interpretation, he had prepared and would submit an amendment of the law clearly setting forth this purpose of the law for the guidance of the board."

Mr. Grable's specific request for a minimum wage of 48 cents an hour would place the yearly wage of section men at $1,175.04 per year, which he maintained is an "extremely moderate request."

"The railroads can afford to pay this wage," Mr. Grable said, "without any dislocating effects and without any financial disadvantages accruing to stockholders or shippers. It could have no injurious effect upon private industry. This request, in brief, is not only just and reasonable, but merely within the range of practical application. We are expecting for this reason to have the full amount of the minimum rate of 48 cents an hour awarded to us by the board. Because we are so restrained in our attitude and because our request is so reasonable and conservative, no smaller amount will be satisfactory."

The last wage decision of the board affecting maintenance of way employees was a "colossal blunder," according to Mr. Grable, and "indefensible from the standpoint of economical and efficient railway operating policy."

"The Board," Mr. Grable added, "we believe, should now come forward with real courage, acknowledge its blunder and at least place our membership on a subsistence level by awarding a minimum rate of not less than 48 cents an hour. The entire country will approve of such action."

A "Just and Reasonable" Wage Means a "Living Wage"

Mr. Lauck formally requested the board to accept the "living wage" principle, make it the basis of its action in the present case and hand down a formal ruling before proceeding further. In explaining his request for this ruling, he said that it meant "that the board accept and make the basis of its decision in this case, as well as part of its general policy in fixing the wage rate of railway employees, that (a) adult workers of the lower grades, unskilled railway employees, be awarded rates of pay which will enable them, under normal conditions, to earn yearly an amount sufficient to permit them to maintain standards of living that are approved as healthful and decent and that are promotive of genuine industrial economy and efficiency; and (b) that proper differentials above this minimum living wage be paid for added skill, responsibility, training and hazard."

A large part of Mr. Lauck's supporting arguments dealt with an attempt to construe the terms "just and reasonable," as applied to wages, to mean the "living wage" and that changes in the cost of living and other similar factors should not be taken into consideration until this "living wage" has been established in the railroad industry. The inference from his remarks was that the labor board had never followed the instruction given it in the law as he interpreted it and that the board, therefore, must now set to work to establish initial basic rates, "just and reasonable" wages, or the "living wage," the terms meaning the same thing, according to his interpretation.

The seven "relevant circumstances" enumerated in the Transportation Act as factors which should be considered by the board in fixing "just and reasonable" wages "assume the prior existence of some substantially 'just and reasonable' wage system and themselves provide merely for changes to meet changing conditions and for the correction of maladjustments in particular instances," it was Mr. Lauck's contention.

Mr. Lauck Asks Board to Make Up "Deficiencies" in the Law

After expressing his approval of the Transportation Act as a "sound and acceptable" law, Mr. Lauck pointed out that, whereas those clauses in the law aimed at the protection of property interests in the railroads are specific, those meant to protect the right of railroad labor are not so definitely expressed or developed with so much detail. "De-

ficiencies in the labor provision of the act" could be overcome, he said, first, by the passage of an amendment by Congress and, second, by rulings of the board, such as the "living wage" ruling requested by the employees.

"These rules would, of course, consist of pronouncements to the effect that the board had accepted certain principles and standards which, in his opinion, were sanctioned by the law and which it would accept as a basis for its future action," he added.

The action of the board in announcing 16 fundamental principles to guide the carriers and their employees in forming new working rules to take the place of the national agreements was cited as a precedent which the board could use to justify its compliance with the employees' latest request, Mr. Lauck contended.

In closing his brief, he attacked the arguments which have been made before by both the board and representatives of the railroads against the application of the "living wage" principle in the railroad industry, charging that "the opponents of the living wage have adopted an indirect method of attack and make much of alleged impracticabilities or the inability to pay living wages out of the national income, point out discrepancies in the alleged size of families, raise the question as to whether single men should receive as much as married men, declare that there is a fundamental danger in awarding wages which will probably be spent extravagantly or foolishly, and adopt similar arguments for mere extreme sophistries, in order to raise a smoke cloud of doubt and disfavor around the principles involved." He admitted at the same time that the "living wage" is not paid by private industries and that, therefore, it is necessary, in attempting to formulate a "living wage," to consider "what should be" and that "theoretical budgets" must be used.

Mr. Lauck Analyzes Railroad Arguments for Wage Cuts

The bases on which the railroads have argued for wage decreases in past hearings were attacked by Mr. Lauck in his brief. He said:

> The argument of the railroads for lower wage rates is in three parts:
>
> (1) That the Transportation Act requires the railroads to be operated in the most "efficient and economical" manner and this in turn requires them to reduce wage costs wherever possible.
>
> (2) That the cost of living has declined more rapidly than wage rates.
>
> (3) That railroad wages are above the level paid in outside industries for similar work, and that the railroads, if given a free hand, could employ men at lower rates than now being paid.
>
> First, as regards the requirement of the Transportation Act that the railroads be conducted in an "economical and efficient" manner. What this means, of course (as appears when the Transportation Act is read as a whole), is simply that the railroads shall be run as economically as possible consistent with the payment of just and reasonable wages to their employees. Whatever wages the board decides are "just and reasonable" thereby become *ipse facto* "economical," within the intent of the Act.
>
> Second, as regards changes in the cost of living, as previously pointed out, a change in prices or living costs is a "circumstance" to be considered by the board in adjusting wages, only when the original wage rates themselves are found to be "just and reasonable." It is at best a matter of argument whether wages, even if well above a living wage, should be reduced with every decrease in the cost of living. Notable authorities, indeed, have held that the maintenance of existing wages when cost of living decreases offers the simplest and easiest way by which labor may be given due participation in the constantly increasing productivity of modern industry.
>
> Third, as regards wages in other employments. The railroads' demand for wage reductions of the maintenance of way and other employees rests primarily on their claim that wages in other industries are lower than on the railroads, and that if given a free hand they could recruit their forces at lower rates than now being paid. We do not admit these claims. Wages in other large basic industries, where wage adjustments are made through collective bargaining or through the action of voluntarily chosen arbitration tribunals, have as a rule undergone no significant declines. But even if these claims were true, we deny that they would be pertinent. For to argue that railroad wage rates should be reduced because the same men or other men might be hired at lower wages than now being paid, is to attack the whole theory of arbitration. It is a frank appeal to the old law of supply and demand, and we connot have wages determined by "supply and demand" (which means strikes, lockouts, and other forms of industrial warfare) and, at the same time, have a peaceful settlement of wage disputes by means of arbitration. If the matter is to be left to "supply and demand" then arbitration must be thrown overboard and the parties left absolutely unfettered to fight out their battle in the old tooth and claw fashion. If the matter is to be settled by arbitration, then the law of supply and demand must be thrown overboard.
>
> It is, of course, proper that the wages paid in outside industries should be considered by the board as one of the "relevant circumstances" prescribed by the Transportation Act in determining what wages are "just and reasonable." But this factor must not be accepted as a controlling *principle*, and its use is always subject to these qualifications—first that the lowest paid worker receives a living wage, second that fair differentials for skill, hazards, etc., are observed, and, third, that comparison be made only in those cases where the wages in the other industries and employments have been fixed by fair and honorable means, such as collective bargaining and arbitration boards.

Mr. Lauck's testimony precipitated a lengthy discussion between the witness and Jacob Aronson, and J. G. Walber, representing the Eastern roads; Dr. C. P. Neill, representing the Southeastern carriers; J. L. Coleman and J. W. Higgins, representing the Western roads. Mr. Aronson developed the fact that Mr. Lauck was requesting the board to accept and definitely approve a principle without first ascertaining whether that principle could be applied to the industry. Dr. Neill brought out the fact that Mr. Grable had approved the submissions to the board by the individual railroads and their maintenance of way employees, that the dispute involved in each one of these submissions was the request of the employees for the restoration of the rates of pay in effect under the board's Decision No. 2 and that, therefore, the latter's new request for a minimum wage of 48 cents an hour could not be taken up by the board under the law, because no such demands were made by the representatives of the employees on the individual carriers.

M. of W. Workers Prefer No Overtime

In taking up the subject of primitive overtime after the ninth and tenth consecutive hours of work, a dispute involved in many of the submissions to the board, Mr. Grable cited the history of the overtime rules during the past four years, adding:

"We have no desire for any overtime, no matter what the rate. We do not care to work on Sundays and holidays and, if it were possible, or rather if it were practicable, we should be glad to have this board absolutely forbid all overtime and all work on Sundays and holidays. We realize, however, that an absolute prohibition of all overtime and Sunday work is impracticable, but it should be restricted to the very lowest minimum and it is for this purpose that we request the punitive rate of time and one-half."

Mr. Grable contended that "when a railroad knows it can have the services of an employee at any time for an additional two hours beyond the eight hours of the basic day without paying more than the regular pro rata rate, the railroad will make absolutely no endeavor so to arrange the work as to obviate the necessity for the extra time.

"The basic eight-hour day," he said, "is lost to us and its benefits are destroyed when the railroad can command our services for an extra two hours on week days and for 10 hours on Sundays and holidays without paying more than the regular pro rata rate. Our rest is gone, our recreation is lost, our family life rendered impossible under these conditions."

At the opening of the hearings, the question of whether or not the maintenance of way employees of certain Eastern carriers can properly be before the board in this case inas-

much as they have gone on strike without the sanction of their national organization and in violation of their agreements, was raised by Mr. Walber. In addition, Mr. Walber pointed out that some of the roads have formed new organizations of their employees to the practical exclusion of membership in the national union. Chairman B. W. Hooper of the board requested Mr. Grable to answer the point raised by Mr. Walber. The objecting roads included the New York, New Haven & Hartford, the Philadelphia & Reading, the Pittsburgh & West Virginia, the Delaware, Lackawanna & Western, the Grand Trunk, the Monongahela, the Pere Marquette and the Buffalo, Rochester & Pittsburgh.

Board Declines to Approve "Living Wage" Principle

The employees' request for approval of the "living wage" principle was flatly turned down by the board when it announced at the opening of the hearings on August 29:

It is superfluous for the board to announce in advance the principle or theory upon which it will fix wages in the pending dispute. It may be assumed by the parties in this case that the board will give full consideration to every circumstance set out in the statute for its guidance, but it will not go beyond that. The Transportation Act requires the board to establish wages that are "just and reasonable." It is within the province of the parties herein to make such contentions as they may respectively see fit as to what will constitute a "just and reasonable" wage. If the wage which the motion defines as the "living wage" should be demonstrated to be a "just and reasonable" wage, the board would adopt it; otherwise it would not. The board will neither limit nor enlarge the right of either party to present to the board his conception of what constitutes a just and reasonable wage within the meaning of the law.

This move evidently disrupted the plans of Mr. Grable and his associates, for he immediately asked for a recess in which to reconstruct his case.

This request was granted.

A. O. Wharton, the only member of the labor group on the board in Chicago at the present time, sponsored, in an executive session, a resolution embodying the request made by Mr. Grable. However, his vote was the only one cast in favor of this declaration in favor of the "living wage," all of the other members voting against it.

Grable Appeals to Washington

Following the rejection of the employees' demand for approval by the board of the principle of the "living wage," Mr. Grable appealed to Senator Cummins for the enactment of an amendment to the Transportation Act which would compel the board to specifically recognize this principle.

"We believe that the board's interpretation of the Transportation Act," Mr. Grable said in his telegram to Senator Cummins, "is absolutely wrong and we believe you will agree with us in this. We realize now, however, that the only way in which justice can be obtained is by action on the part of Congress."

Chairman Hooper, subsequently explaining the board's decision on the question of the "living wage," said:

"The issue raised by Mr. Lauck, statistician in the employ of the railway labor organizations, is largely a matter of phraseology. The Transportation Act directs the Railroad Labor Board to fix wages that are 'just and reasonable.' This the board has always endeavored to do, as it will in the pending case.

"Mr. Lauck says that a 'just and reasonable' wage must necessarily be a 'living wage.' Very well then; when the board has fixed a 'just and reasonable' wage it will be a 'living wage' and Mr. Lauck will have what he asks for though it be called by a different name.

"The board's ruling will have absolutely no practical effect on the development of the employees' case in the hearing now in progress. They will be permitted to introduce identically the same proof as though this question of terminology had not been raised and it will be accorded the same careful consideration."

When the hearings were resumed on August 30, Mr. Lauck and J. C. Smock, vice-president of the maintenance of way men's organization, began the presentation of their case repeating to a large extent the argument made at the opening hearing. Mr. Smock presented evidence to the board to show that his organization had been doing everything in its power to keep the membership on certain Eastern roads at work and to end the sporadic walkouts of maintenance of way employees.

During the course of the testimony the employees put in the record a file of letters written by business men to Chairman Hooper, urging the readjustment of the rates of pay of these employees. Upon being questioned as to the manner in which these letters came to be written the representatives of the employees were forced to admit that the representatives of the men had been instructed to influence their local business men to write these letters and that the material which they should contain emanated from the headquarters of the union.

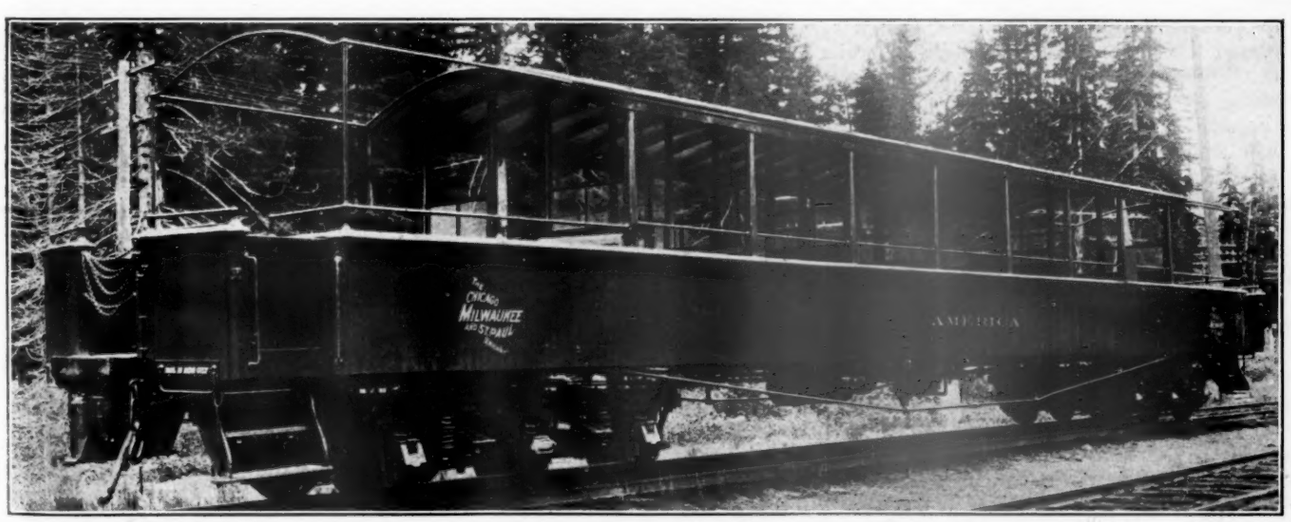


Photo by Kadel & Herbert

An Open Observation Car on the C. M. & St. P.—Each Seat Protected by a Separate Windshield

Accident Investigations— April, May and June

THE TWELFTH quarterly issue of the Summary of Train Accident Investigations, prepared by the Bureau of Safety of the Interstate Commerce Commission, which is for the months of April, May and June, 1922, was issued on August 23.

This report covers eight collisions and seven derailments, as follows:

Collision	Chic., R. I. & Pac.	Plains, Kans.	April 19
Derailment	Baltimore & Ohio	Philo, Ohio	April 22
Collision	St. Louis-San Francisco	Girard, Kans.	April 25
Collision	Galv., Harrisb'g & S. A.	Lobo, Tex.	May 6
Derailment	Kansas City Southern	Allene, Ark.	May 14
Collision	Chic., R. I. & Pac.	Keats, Kans.	May 20
Collision	Ulster & Delaware	Grand Gorge, N. Y.	May 26
Collision	Atchison, Topeka & S. F.	East Ft. Madison, Ill.	May 29
Derailment	Southern	Middleton, Tenn.	June 7
Derailment	Pennsylvania	Brilhart, Pa.	June 7
Derailment	Louisville & Nashville	Hilberta, Ala.	June 15
Collision	Carolina, Clinchfield & O.	St. Paul, Va.	June 18
Derailment	Canadian Pacific	Lake View, Me.	June 22
Derailment	Virginian & Western	Glen Rogers, W. Va.	June 22
Collision	Norfolk & Western	Crumpler, W. Va.	June 30

Following are abstracts of these reports:

The trains in collision on the Chicago, Rock Island & Pacific near Plains, Kans., on April 19 were westbound passenger No. 311 and eastbound passenger No. 312, each consisting of a locomotive and three cars. The collision occurred in clear weather about 2:35 a. m. Moving between 20 and 40 miles an hour, the trains collided on a straight line; and in each train the baggage car was telescoped by the tender for the full length of the tender; but the passenger cars were not damaged. The locomotives were damaged but remained upright. Both enginemen were killed, and six persons were injured. Improper handling of a train order is given by the inspector as the cause of the collision; but the fact that both locomotives carried electric headlights introduces a question as to why neither engineman saw his danger in time to bring his train to a stop. The firemen apparently were able to give no information, and the reason for this failure is a matter of conjecture. Each fireman said that he knew nothing of the approach of the opposing train until he felt the application of the air brakes, at which time the opposing train was only a few rods distant.

The train derailed on the Baltimore & Ohio near Philo, Ohio, on April 22 was eastbound passenger No. 58, consisting of a locomotive and three cars. Moving at about 35 miles an hour, it was thrown off the track at a highway crossing, and the engine and first two cars fell down a 30-ft. bank. The engineman was killed and 13 passengers and 4 employees were injured. The crossing is on a curve of 2½ deg. and the cause of the derailment was dirt on the track, which appears to have been scraped upon or close to the crossing by a road scraper, being afterwards packed down by passing automobiles.

The trains in collision on the St. Louis-San Francisco at Girard, Kans., on April 25, were a southbound extra, consisting of 18 circus cars, which had just stopped for a crossing and was moving at about eight miles an hour, and southbound passenger No. 111, which ran into the rear of the circus train at about 15 miles an hour. One passenger was killed and 12 passengers and two employees were injured. The collision occurred at about 2:37 a. m. in a dense fog. The inspector finds that the extra was occupying the main track on the time of the superior train without proper flag protection. The extra had passed Farlington, seven miles north, with too little time to clear the passenger train at Girard, no block system being in use. The collision occurred within yard limits. The assistant superintendent was on the circus train, but he overlooked train No. 111; he said he was thinking about clearing a northbound train due at Girard at 3:20 a. m. The conductor and the flagman had not forgotten the passenger train, yet they had not thrown off any fusees and (the line being straight) apparently depended on seeing the headlight of the passenger train as well as if there had been no fog. The engineman and the fireman knew that they were on the time of the passenger train, but no whistle was blown to send out the flagman and they said they had full confidence in the competency of the men riding at the rear of the train. At the last minute a fusee was thrown off but it was only 300 ft. in the rear of the point of collision.

The collision on the Galveston, Harrisburg & San Antonio, near Lobo, Tex., on May 6, causing injury of 50 passengers, 12 employees and two sleeping car porters, occurred about 9:31 p. m., and was due to a string of freight cars becoming uncontrollable on a steep grade, and colliding with westbound passenger train No. 101, the freight cars at that time being in motion at about 20 miles an hour, while the passenger train was running at about 10 or 15 miles an hour. An eastbound freight train, entering the passing track at Fay, was obliged to push 13 cars of ballast forward some distance in order to clear the main track; and in the movement, nine cars of ballast became separated and ran down the grade on the main track. The inspector puts the responsibility primarily on the leading brakeman of the freight who should have made sure that the ballast cars were secure before allowing them to be moved forward. When he felt that there was something wrong, he got off and ran to one side, to get out of range of the locomotive headlight in order to see what had happened; and the cars got away from him. He had coupled the air hose between the locomotive and one of the ballast cars, but took no action to see whether or not the brake was working throughout the whole string. The conductor had been notified that the ballast cars would be in his way, but he did not pay personal attention to their movement; and he admitted that the brakeman was not entirely competent. There was no derail at the outgoing end of the passing track, the rule being to install these only where cars are regularly stored and where the grade is descending 26 ft. per mile or more.

The derailment on the Kansas City Southern, near Allene, Ark., on May 14, occurred about 11:30 p. m., and resulted in the death of the engineman and the injury of five other persons. Northbound passenger train No. 2, moving at about 40 or 50 miles an hour, was thrown off the track by the turning over of a rail, caused, according to the report, by the excessive speed over uneven track. For 800 ft. south of the point of derailment, the track was level in only two places and the maximum variation in height was 1⅝ in.; while the gage for this distance was from ⅛ in. to 1 in. wide. The section master said that the roadbed in that region was spongy in character. The locomotive was 4-6-2 type weighing 129 tons.

The trains in collision on the Chicago, Rock Island & Pacific at Keats, Kans., on May 20, were eastbound third-class freight No. 86, and eastbound second-class freight No. 994, the last named running into No. 86 while it was standing at the station, about 6:15 p. m. Two passengers were killed and three employees and one trespasser were injured. No block system is in use on this section of the road and the inspector says the cause of the collision was the failure of the flagman of the standing train properly to protect his train.

The collision on the Ulster & Delaware, near Grand Gorge, N. Y., on May 26, was between a work train, extra No. 21, and freight train extra No. 22, both headed eastward. The freight train ran into the work train and six workmen riding in the rear car of their train were killed. The work train was moving slowly backward. This train was not protected by flag. The conductor was occupying the main track under authority of two train orders, in the reading of which he had become confused. The second order changed the hour at which he must send out a flag

against the freight train, but he got some wrong impression in reading the two orders. The inspector finds that the railroad has no proper system for the examination and instruction of employees except when they enter the service or when they are promoted. The engineman of the work train had a correct understanding of the contents of the train orders but instead of conferring with the conductor as to the details of execution, he took it for granted that the conductor had provided proper protection before beginning the westbound movement. The fireman and the brakeman appear to have been ignorant of the second train order. "The necessity for close co-operation and thorough understanding between members of a crew applies with particular force to a work train."

The collision on the Atchison, Topeka & Santa Fe at East Fort Madison, Ill., on May 29 about 4:07 a. m. was between westbound passenger No. 1 and eastbound passenger No. 2, fourth section; the engineman of No. 1 and the fireman of the eastbound train were killed and 48 passengers and three employees were injured. The collision occurred at the switch at the east end of the single track which extends across the Mississippi river. The eastbound train was just entering the double track when it was struck by the westbound, which had passed a distant and a home signal, and a train order signal, all set against it. The eastbound train was moving at about 20 miles an hour and the westbound at about 30 miles an hour. The fireman of No. 1 said that the engineman saw the home signal and the train order signal; but for some unknown reason, says the report, "he took no effective measures toward bringing his train to a stop * * * He may have been so incapacitated as to be unable to take the proper steps. When the fireman directed the engineman's attention to the signal indications there was still time for the engineman to have stopped the train. The engineman acknowledged the indications to the fireman and had his hand on the brake valve," and so the fireman did nothing to stop the train. There was no evidence that the engineman had been in other than good physical condition up to the time the train approached the point of collision.

The train derailed on the Southern Railway near Middleton, Tenn., on June 7 was westbound extra freight train No. 567. About 2 a. m., while traveling at 25 miles an hour, the locomotive and 14 cars was thrown off the track at a washout and the fireman was killed. The inspector finds that the trouble was due to heavy rain of which the train dispatcher was notified as early as 8:15 p. m.; but the freight train was not given any warning. The station operator did not wish to offend the dispatcher by repeating his warning and he notified Grand Junction, west of Middleton, on another wire, requesting that eastbound trains be warned. The operator failed to notify the track foreman for which he is censured. This foreman had retired to bed about 8 o'clock being exhausted by hard work and worry incident to illness in his family, and so knew nothing of the heavy rain until he was called at 2:40 a. m. on account of the derailment. The operator who came on duty at 11 p. m. assumed that, as it had rained about three hours, the necessary precautions had already been taken. The inspector cannot decide the point in dispute as to whether the dispatcher had again been warned at 11:10 p. m.; but as there had been a washout at the same place only a short time before he should have exercised particular care. The railroad company is also held at fault for neglecting the drainage of the roadbed, the waterways having become clogged. If the drainage had been put in good condition the derailment "undoubtedly would not have occurred."

The train derailed on the Pennsylvania Railroad at Brilhart, Pa., on June 7 was westbound passenger No. 975, drawn by engine 1387. Moving at about 40 or 45 miles an hour, it was thrown off the track by some obstruction on the rail, and the locomotive was overturned. The fireman was killed and seven passengers and eight employees were injured. The locomotive, class K-2 of the 4-6-2 type, had on its front truck a transverse tie-rod, behind the leading wheels, used to overcome lateral movement in the brake shoes; the rod became broken or detached and dragged on the road bed. A careful search was made for a missing bolt, cotter key and nut, by which it was fastened to the left brake shoe, but nothing was found. The inspector concludes that this dragging rod probably threw a piece of ballast or some other substance up, and on to the rail, causing the derailment of the rear wheels of the truck.

The train derailed on the Louisville & Nashville at Hilberta, Ala., on June 15 was northbound passenger train No. 4, first section. Moving at about 50 miles an hour, it was derailed by running over a misplaced facing point switch and two employees of a warehouse near the side track were killed and three others were injured. On the train 53 passengers and 7 trainmen were injured. The locomotive was overturned and the warehouse badly damaged. The switch had been left in the wrong position by a trackman, and he and his foreman, who was nearby are held responsible for the derailment. The whole gang of trackmen had passed the misplaced switch without noticing it. The man at fault had carefully returned the switch key to the foreman without having closed the switch.

The trains involved in the rear collision on the Carolina, Clinchfield & Ohio, at St. Paul, Va., on June 18 were freight trains Nos. 301 and 706, the latter running into No. 301 at about 10 miles an hour. The leading train was at a standstill. One employee was killed, a brakeman of the 706, who was riding on the pilot of the locomotive. The collision occurred within the yard limits where, because of curves and trees, the view is short; and the view is also bad from the type of engine involved, which was 2-8-8-2. On account of the shape of the locomotive, the engineman was depending on the fireman; and, the conclusion of the inspector is that the collision was due to the failure of the fireman to notify the engineman that the main track was occupied. The fireman saw the standing cars and knew that there was no track of any kind alongside of the main track; yet, for some reason, he was under the impression that the cars were on a passing track and that the main track was clear. The failure of the brakeman on the pilot to warn the engineman or to save his life by jumping off cannot be explained; it is probable that he was either asleep or had become unable to take care of himself.

The train derailed on the Canadian Pacific near Lake View, Me., on June 22, was eastbound passenger No. 16. Moving at about 30 miles an hour it was derailed by a rock which had fallen from the top of a cut and lodged on the track. The locomotive was thrown against the wall of the cut and was stopped about 156 ft. beyond the point of derailment. The fireman was killed and one other employee was injured. The conclusion of the inspector is that heavy rains during the past two weeks probably had washed away the earth supporting the rock, which measured about 840 cu. ft. The track foreman, who had been in charge of this section for 25 years, had never known of any trouble in this vicinity from falling rocks.

The train derailed on the Virginia & Western near Glen Rogers, W. Va., on June 22, was a work train, moving at about 12 or 15 miles an hour with three cars ahead of the locomotive, and 10 cars behind. Two employees were killed and three injured, the killed having been riding on the leading car. The derailment was caused by a broken flange, the break being due to an old defect, the presence of which could not have been discovered by ocular inspection, although, says the inspector, its presence probably would have been discovered by a hammer test.

The trains in collision on the Norfolk & Western at

Crumpler, W. Va., on June 30 were a freight train and a locomotive without train; one employee was killed and eight were injured. This collision occurred on the North Fork branch, seven miles long, where extra trains register "on" and "off" the branch (at the junction) and thereafter adjust their rights to the road by means of telephone messages between conductors. Conductors of inferior trains make use of commercial telephones in the offices of the coal companies along the branch. They make no records of their conversations and the engineman depends on what he is told by the conductor. The collision occurred on a steep descending grade, where the view is very restricted. The damage to locomotives and cars was not great, but one engineman was killed. As the conductors had no record of their conversations, the inspector is unable to determine which of them is at fault. The report says that "greater safety in train operation on this branch undoubtedly would be provided by the adoption of standard methods as contained in the operating rules of the American Railway Association."

I. C. C. Finds Only 4 Per Cent of Locomotives Inspected Unsafe

WASHINGTON, D. C.

THE REPORT submitted by the Interstate Commerce Commission to the Senate on August 29 in response to its resolution asking whether the safety appliance and locomotive inspection acts were being violated, fails to find anywhere near as serious a condition as has been proclaimed by the labor leaders, although its inspectors' reports, the commission says, "indicate a very general let down in the matter of inspection by carriers which gives cause for concern." The commission says it is impossible to report the exact condition of all locomotives from day to day, but of the 4,085 locomotives and tenders inspected on 162 railroads during July, 2,456 disclosed defects more or less serious, but only 169 or 4 per cent were found not safe to operate and ordered withdrawn from service. Of the others, 992 were found to have defects less serious in character, but in need of prompt attention, and in 1,295 cases there were defects not such as to give cause for immediate concern, but such as in accordance with sound practice should have attention. The report, after quoting the Senate resolution, No. 327, is as follows:

The Locomotive Boiler Inspection Act approved February 17, 1911, has as its purpose the promotion of the safety of employees and travelers upon railroads, by compelling common carriers engaged in interstate commerce to equip their locomotives with safe and suitable boilers and appurtenances thereto, making it unlawful to use any locomotive engine propelled by steam power in moving interstate or foreign traffic, unless the boiler of such locomotive and appurtenances thereof are in proper condition and safe to operate without unnecessary peril to life or limb. The act provides that all boilers shall be inspected from time to time in accordance with the provisions thereof, and be able to withstand such test or tests as may be prescribed in the rules and regulations provided therefor.

By act approved March 4, 1915, the original act has been made to apply to and include the entire locomotive and tender and all parts and appurtenances thereof. The provisions of the act as amended apply to any common carrier or carriers, their officers, agents, and employees, engaged in interstate or foreign commerce.

As required by the act, the United States was divided by us into 50 locomotive boiler-inspection districts and one inspector assigned to each of such districts. It is required that each inspector shall make such personal inspection of locomotives under his care from time to time as may be necessary to fully carry out the provisions of the act and as may be consistent with his other duties, but he shall not be required to make such inspections at stated times or at regular intervals.

It is further provided that whenever any district inspector shall, in the performance of his duty, find any locomotive not conforming to the requirements of the law or the rules and regulations, he shall notify the carrier in writing that the locomotive is not in serviceable condition and thereafter such locomotive shall not be used until in serviceable condition.

Specifically, as to the matters included within the Senate Resolution:

Instances have been brought to our attention where, in our opinion, the act, as amended, referred to in Resolution 327, recently has been violated. It is impossible for us to accurately report the extent of such violations.

Inspection of locomotive boilers is at present being made in all federal locomotive boiler-inspection districts by our inspectors, but all inspections by the carriers as contemplated in section 5 of the act are not being made by and upon all common carriers engaged in interstate commerce. The reports from our inspectors indicate a very general letdown in the matter of inspection by the carriers which gives cause for concern. The carriers report various reasons for not making these inspections. Some of the reasons assigned are as follows:

"No monthly inspection made of this engine since 6-16-22 account of not having competent inspectors in the service due to walkout of the shop crafts.
"Unable to make inspection account insufficient help due to strike.
"Not inspected account strike.
"Inspection not made July.
"Unable to make inspections or tests account strike conditions."

There are approximately 70,000 locomotives within the general purview of the act. A determination as to the extent to which the act currently is being violated would involve ascertainment of the condition of each locomotive and information as to the use being made thereof. The condition varies even as to the same locomotive from day to day. It is not possible for us to make this determination. The locomotives referred to are housed or repaired at approximately 4,600 different points and are operated on more than 265,000 miles of track. We are permitted by the act to have 50 district inspectors. During July last they made 717 separate inspections covering 4,085 locomotives and tenders on 162 railroads. The July activity of our inspectors is typical. The act does not contemplate that our inspectors shall inspect all locomotives. Section 6 of the act provides that the inspectors' "first duty shall be to see that the carriers make inspections in accordance with the rules and regulations established and approved by the Interstate Commerce Commission, and that carriers repair the defects which such inspections disclose before the boiler or boilers or appurtenances pertaining thereto are again put in service."

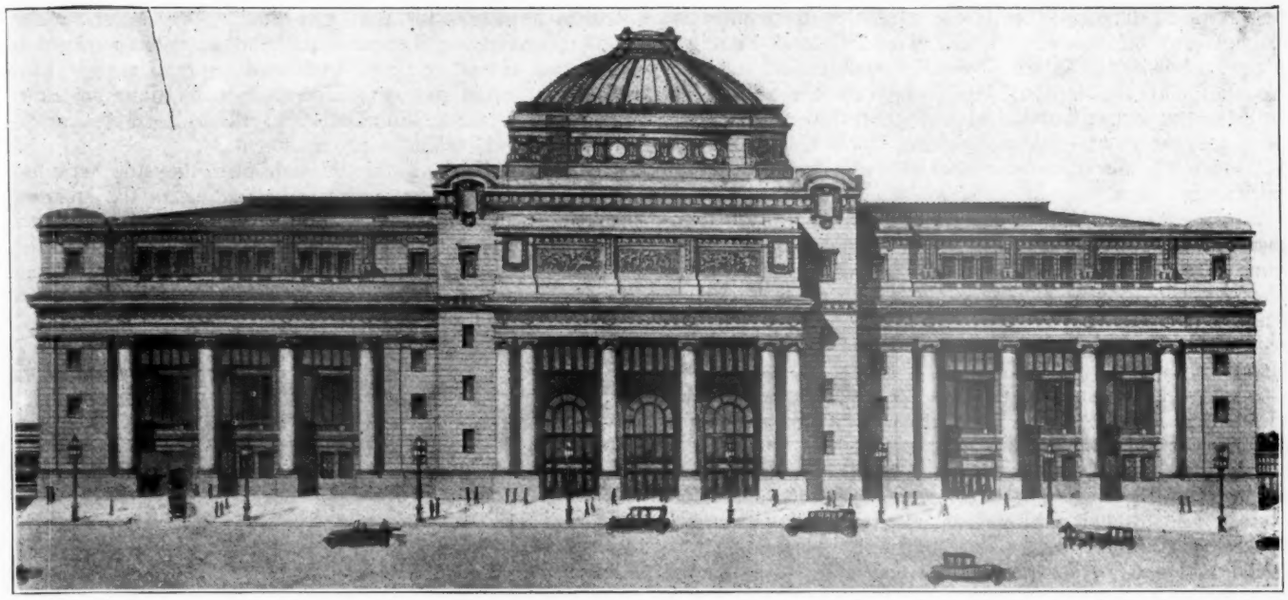
The services of our inspectors are general in character, and they are given such direction as is designed to bring about a compliance with requirements by the carriers.

In pursuance of the duty of inspectors to see that requirements are complied with, and that equipment is kept in safe condition, the inspectors deal with the varying situations and conditions in that manner which is deemed likely to accomplish the best practical results. The exercise of discretion and judgment is always involved. Obviously a locomotive may be defective and in need of repairs and yet be in a condition in which it is "safe to operate . . . . without unnecessary peril to life or limb." In many instances defects discovered and brought to the attention of carrier representatives are immediately repaired without retiring the locomotive. Under section 6 notice is given of the more serious defects and the locomotives are required to be retired.

While we are not in position to make report regarding the condition of all locomotives and the extent to which the requirements as to inspection and repairs are not being complied with currently, there are indications as to conditions generally and certain deductions and conclusions may be drawn from the conditions disclosed by the work of our inspectors during the month of July last. At 717 different points they made personal inspection of 4,085 locomotives. Of these, 2,456 disclosed defects of the varied character mentioned above and more or less serious; 169 were found to be in such condition that they were not "safe to operate" and notices were served upon the carriers under section 6 of the act requiring them to be withdrawn from service. Of the others, 992 were found to have defects less serious in character but in need of prompt attention. In 1,295 cases, defects, though not such as to give cause for immediate concern, were such as, in accordance with sound practice, should have attention.

It will be noted that it is the "use" of a locomotive not found to be in proper condition and safe to operate, and not the condition itself, which is a violation of the law. The withdrawal of locomotives for repairs, the restoration of locomotives to service, and the use of reserved or surplus locomotives, are factors contributing uncertainty when considering the condition of locomotives in service to which the act applies.

When considering the extent of our inspection, cognizance should be taken of the fact that the act limits the number of inspectors to 50, and that the amount directly appropriated to carry out its provisions for the current fiscal year is $290,000. This sum may be spent in monthly allotments of $24,166.66, as provided in the Antideficiency Act of February 26, 1906. The amount expended during the month of July, 1922, in carrying out the requirements of the act was $24,025.63.



A Study for the Front Elevation of the New Illinois Central Station at Chicago

Factors Governing the Design of Passenger Terminals*

An Analysis of the Operating Conditions Which Influence the Plans for a Large Station

By A. S. Baldwin
Late Vice-President, Illinois Central

RAILROAD PASSENGER SERVICE may be divided into two general classifications, suburban and through. Suburban service is that which has for its primary purpose the carrying of passengers between residential and business districts. This service, which in many respects resembles surface, elevated, or sub-surface street railway service, exists in large cities only. The distance traveled rarely exceeds 30 miles. Some suburban trains carry baggage, mail and express for local points served, mainly to relieve through trains of that burden, but as a general practice suburban trains carry passenger coaches only.

Through passenger service is designed to meet widely different requirements. The territories served generally cover large areas and the distances traveled are great as compared with suburban service. On some railroads, trains, exclusive of locomotives, move as units distances of 2,000 to 2,500 miles. This condition has resulted in the use of cars fitted with many comforts not required for short distance travel. Baggage is carried on trains with passengers. Sleeping, dining, and in many cases, observation cars are usual features of passenger train equipment. It is readily apparent that, with such a variety of cars, many of which must be turned at the terminal before a return trip can be made, and with the many movements necessary for repairing, cleaning, inspecting and supplying locomotives and empty rolling stock, arrangements for reducing switching movements should be given careful consideration.

General Types of Passenger Terminal Stations

Passenger terminals may be classified, with reference to the arrangement of their approach tracks, station tracks and station, into the following general types: (1) Sub Terminals; (2) Through Terminals; (3) Loop Terminals; (4) Combinations of the above.

A stub terminal is one in which the station tracks are connected at one end only. Generally the tracks terminate at a station headhouse or at a concourse leading to it, thereby enabling passengers to reach trains without crossing tracks or using stairs. The advantages in having a station located as near the heart of a city as practicable, or in having it adjacent to a thoroughfare, beyond which tracks can be extended have resulted in the construction of a large number of stub stations. The Jersey City station of the Central Railroad of New Jersey, the St. Louis, Mo., Union station, and South station, Boston, Mass., are of this type.

The *through terminal* has its station tracks connected at both ends. In this type it is necessary for passengers to use stairs, ramps, or elevators in order to avoid crossing station tracks at grade. The Pennsylvania Station in New York City, is an example of this type.

The *loop terminal* is a form of through terminal in which trains generally enter the station from the same direction, the main tracks converging from either end of the passenger platforms so as to form a loop or part of a circle, thereby permitting forward movement of trains from the point of entrance to the loop, through the station, to point of departure with the train reversed in direction. This type offers peculiarly favorable opportunities for the location of engine terminal and coach yard facilities. It is frequently used in street car terminals, but on account of the area required for the curves of long radii, its use for steam railroad operation is limited. The Broad Street station, Richmond, Virginia, is an example of this type.

Combinations of the three types of terminals mentioned are quite common and can frequently be made to advantage. The Union station, Washington, D. C., and the Grand Cen-

*Abstracted from a report presented before the International Railway Congress in Rome in May, 1922.

tral station, Memphis, Tenn., are examples of combination through and stub terminals. The Grand Central Terminal, New York City, is an example of a combination stub and loop terminal, and is of particular interest in that it is not only the largest station, but also the only important double deck passenger station in America. The Union Station, Kansas City, Mo., is of the through type, but has station tracks and platforms of sufficient length to accommodate two trains. It can be operated either as a double stub terminal or with two trains on the same track operating in the same direction. The stairways are in the middle of the platforms. A double stub terminal with station tracks extending in opposite directions, but abutting a common passenger concourse, is now being constructed for the Chicago Union Station Company, Chicago.

In a stub terminal, every locomotive and car handled must, of necessity, pass in and out the one throat. This is not the case in through and loop terminals, where movements are generally continuous through the terminal and the interference from conflicting movements are reduced to a minimum. The through terminal, operated in both directions, has some disadvantages as compared with one operated in one direction only, but the interference is less than in the stub terminal.

The objections to the excessive throat movements in a stub terminal may be mitigated by providing a flexible and adequate throat arrangement. The number of throat or approach tracks required can be determined only after a thorough study of the individual terminal requirements. The tendency in design has been to favor a liberal number of throat tracks. If an adequate throat is not provided, even though there may be enough station tracks to handle the trains, congestion results.

The excessive back up and crossover movements necessary in a stub terminal tend to restrict its capacity. In through and loop terminals, the movement being in one direction, a train can follow the one preceding, while in the stub terminal a station track must be cleared by one train before another train can occupy it, consequently the capacity of through and loop terminals is considerably greater than that of stub terminals for the same number of station tracks.

Through trains, due principally to the time required to load and unload baggage, mail and express, require more standing time at station platforms than do suburban trains, consequently more suburban than through trains can be handled on a track in a given time.

The advantages of the through over the stub terminal, so far as capacity is concerned, decrease as the standing time of the trains in the trainshed increases, because the delay of clearing the station represents a smaller proportion of time per cycle of operation. For this reason, the objection to a stub terminal for through passenger service is not so great as for suburban service where the loss of time getting in and out of the terminal represents a large proportion of the total time involved.

The advantages of through and loop terminals over stub terminals for switching movements are apparent. This is emphasized in the stub terminal if arriving trains head into the station, which is the general practice. If the train is broken up on the station tracks by a switch engine, baggage, mail and express cars cannot be switched to other tracks for handling until the coaches are unloaded and removed. The road engine cannot be released until the entire train

Terminal	Year completed	Relation of through train to total trains handled	Number of approach tracks	Number of station tracks	Ratio of station tracks to approach tracks
Grand Central, Chicago....	1890	100%	5	10	2.00
South Station, Boston.....	1898	55 —	8	28	3.50
Union, St. Louis.....	1904	86 —	6	32	5.33
D., L. & W., Hoboken....	1907	7 —	6	14	2.33
Erie, Jersey City, N. J....	1910	3 —	5	12	2.40
C. & N. W., Chicago.....	1911	27 —	6	16	2.67
C. R. R. of N. J., Jersey City	1914	20 —	9	20	2.22
Can. Pac., Montreal.....	1914	36 —	4	11	2.75
Lehigh Valley, Buffalo....	1916	100 —	3	9	3.00

Ratio of station tracks to approach tracks

Capacity of terminals.

Terminals	Number of stations classified as to service: Suburban	Through passenger	Mail and express	Total	Total number of trains operated in and out of station, 1921 schedule, 24 hours: Suburban	Through passenger	Mail and express	Total	Peak hour: Suburban	Through passenger	Mail and express	Total	Maximum number handled on any one station track in one hour: For suburban service.	For through service.	Maximum number of trains operated in station in one hour. Past performance: One hour.	Estimated percentage of station capacity.	Estimated possible performance: All station tracks, based on 100 per cent performance.	Per station track.
Stub terminals:																		
South Station, Boston.....	All	All	All	28	297	344	19	660	55	32	0	87	4	2	101	100	101	3.61
Erie, Jersey City.....	All	4	0	12	363	10	3	376	49	0	0	49	9	1	54	100	54	4.50
C. & N. W., Chicago.....	12	4	0	16	230	81	3	314	39	11	0	50	5	2	50	75	67	4.19
C. R.R. of N. J., Jersey City....	All	All	0	20	217	52	3	272	31	5	0	36	8	2	40	90	44	2.22
Union, St. Louis.....	13	All	9	32	38	217	14	269	4	44	0	48	3	3	69	100	69	2.16
D., L. & W., Hoboken.....	All	4	0	14	211	14	2	227	34	0	0	34	5	1	46	100	46	3.28
Canadian Pacific, Montreal.....	9	9	2	11	12	72	0	84	6	14	0	20	2	2	25	100	25	2.27
Grand Central, Chicago.....	0	8	2	10	0	40	4	44	0	7	0	7	0	1	7	60	12	1.20
Lehigh Valley, Buffalo.....	0	9	3	9	0	14	4	18	0	3	1	4	0	1	8	50	16	1.77
Through terminals:																		
Pennsylvania, New York.....	All	16	13	21	310	181	34	525	42	13	0	55	15	6	65	73(2)	89	4.24
Union, Kansas City.....	0	16	0	16	0	223	0	223	0	33	0	33	0	5	41	100	41	2.56
Union, Indianapolis.....	All	All	All	12	6	164	16	186	0	18	0	18	0	3	38	...	..	...
Union, Denver.....	2	9	0	10	12	82	0	94	2	11	0	13	1	3	21	100	21	2.10
M. C. Railroad, Detroit.....	0	10	1	11	0	85	5	90	0	12	0	12	0	3	17	85	20	1.82
Loop terminal:																		
Union, Richmond.....	8	8	2	10	6	38	4	48	2	6	0	8	2	1	10	20	50	5.00
Combination terminals:																		
Grand Central, New York:																		
Lower Level (suburban).....	17	0	0	17	225	0	0	225	36	0	0	36	6	0	..	..	..	...
Upper Level (through passenger)	0	25	7	32	0	133	15	148	0	10	1	11	0	4	..	..	..	...
Total	17[1]	25[1]	7	49	225	133	15	373	36	10	1	47	6	4	67	100	67	1.37
Union, Washington, D. C.....	12	20	8	32	120	146	14	280	20		0	20	3	3	50	100	50	1.56
Union, Jacksonville.....	0	20	1	21	0	98	4	102	0	14	1	15	0	2	30	65	46	2.19
Macon, C. of Ga.....	0	11	2	14	0	88	0	88	0	13	0	13	0	2	13	100	13	0.93
Union, Ottawa.....	All	2	0	8	64	6	0	70	12	0	0	12	4	1	15	100	15	1.87
Grand Central, Memphis.....	0	10	0	10	0	64	0	64	0	12	0	12	0	4	17	100	17	1.70
Union, Wichita.....	0	5	1	8	0	36	0	36	0	6	0	6	0	3	6	100	6	0.75

[1] At times Upper Level tracks are used for suburban trains and Lower Level tracks for through trains.

(2) Seven tracks worked to capacity, and fourteen tracks to sixty per cent of capacity.

has been removed. This causes delay and excessive switching through the throat. If trains back into the station, time is lost in turning, and expense of maintenance is increased. In the case of a through terminal, or a stub terminal where trains back in, the road engine can be released at once and baggage, mail and express cars switched to other parts of the terminal, while coaches are being unloaded. In some through terminals the road engine, upon arrival, is disconnected and proceeds to the engine terminal and switch engines, operating from opposite ends, can then begin to break up the train. This method of operation clears the station tracks in minimum time.

From the foregoing discussion, the advantages of combining a loop with a stub terminal, such as the Grand Central Terminal, New York, become apparent. In that station incoming suburban trains, using the loop, proceed to the unloading platforms and then pass around the loop to loading platforms or to the yards as occasion demands. This operation permits following trains to use the same station tracks at much shorter intervals than would be possible if the loop were not provided and leaves the stub tracks for trains which cannot be so quickly discharged, or for outbound trains. The track design permits inbound trains after they have passed around the loop to occupy the stub tracks by a back-up movement; they can then be loaded and made ready for departure without the usual switching movements required for turning equipment in a stub terminal. The location of the stub tracks on the inside of the loop is advantageous in that it combines many benefits of a loop with those of a stub terminal and affords economical utilization of space.

Adequate Station Facilities

Adequate station facilities are essential for the elimination of unnecessary switching movements. It is the general practice to handle baggage, mail and some express on station platforms. From 20 to 30 minutes are required to unload a carload of baggage. The capacity of the station, therefore, can be increased by removing trains to an auxiliary storage yard immediately following the disembarking of passengers, which usually requires from three to five minutes. The train may back into the trainshed and unloading be completed after the rush period is past. Replies to the questionnaire indicate that this practice is employed in but three of the terminals reporting. In the case of fourteen other terminals, the station tracks are released for incoming trains by switching the partly unloaded baggage and express cars to other tracks used for that purpose. This practice will increase as demands upon the terminals, and resulting necessity for releasing tracks quickly, increase. Provision of adequate facilities for this purpose will reduce switching movements by eliminating the necessity for handling cars into and out of the terminal. The capacity and flexibility of a station are increased if a track arrangement is provided which will insure double-track movements into and out of the station for all tracks. It has been the practice in some of the more recently constructed terminals to provide ladder tracks, wherever practicable, in order to afford parallel movements in the same or opposite direction. This increases the capacity of the terminal, permitting a greater number of simultaneous movements and making possible more intensive terminal operation.

Ladder tracks, turnouts and crossovers are costly. The number to be provided depends upon the number of switching movements required and the nature and volume of traffic and must be determined by the needs of each individual case.

Operation of some of the older passenger terminals is seriously handicapped by short station tracks. Trains have increased in the length through steady increase in the length of cars and number of cars per train. Cars 84 ft. in length are being used, and at times 15 or 16 cars of an average length of about 76 ft. are handled in one train. To meet this situation at stations having short tracks, the long trains are sometimes divided into sections and placed on two tracks. This involves extra switching to assemble the train, loss of time in pumping air and testing train lines, confusion to passengers and other objectionable features. In some terminals only a few of the middle trainshed tracks are of sufficient length to accommodate the longest trains. The necessity for handling trains on assigned tracks will limit the flexibility of the terminal. It is apparent that station tracks should, if practicable, be sufficiently long to accommodate the longest trains, although some short tracks can be used to advantage for short trains.

The unusual double throat arrangement of the St. Louis Terminal arose through the necessity for lengthening the station tracks, on account of the increase in length of trains. Originally there was but one throat which resulted in short outer tracks on each side of the trainshed. By dividing the approach into two throats the outside tracks were materially lengthened.

Internal crossovers, between two trainshed tracks and outside the limits of the interlocking plant, are under some circumstances, of value in reducing switching movements. Three such crossovers exit in the St. Louis Terminal, and six in the Washington Terminal. These are located from 300 to 400 ft. from the bumping posts and between adjoining tracks. They are used for placing in or taking out cars without moving the entire train. In the Washington Terminal, there are also crossovers at the head end of some of the station tracks which permit switching movements outside the limits of the interlocking plant. Due to the requirements at Washington, for unusually frequent transfer of cars from one train to another, these crossovers are of value in reducing switching movements.

A notable feature at the Washington Terminal is a turntable, located adjacent to the trainshed, used for turning railroad officers' business and privately owned cars, postal cars, and other passenger equipment, also for turning certain road locomotives which are operated on short turn-around schedules and do not have sufficient layover to permit running to the engine house for turning. The operating officers advise that the turntable is well located, and a decided advantage to operation.

In the suburban terminal of the Illinois Central at Chicago, internal crossovers are an essential feature of the track arrangement. The motive power is steam, but the engine and tender are combined in one rigid unit, operating equally well in either direction. This feature, common to many suburban steam locomotives, reduces switching movements and avoids the necessity for turning locomotives. By means of the internal crossover arrangement the locomotive on an incoming train can be released at once if the adjacent track is not occupied. It can then move around the train, connect with the opposite end and be ready for an outbound trip without switching the cars. In the meantime, passengers can occupy the cars and the train be ready for an outbound trip when the locomotive is reconnected. The throat arrangement of this terminal is restricted and the greater part of all movements both in and out must of necessity pass over a single throat track.

In 1920 during a street car strike, trains were operated continuously for several days into and out of this terminal at the rate of 544 in a 12 hour period, an average of 7.6 trains per track per hour; this was accomplished notwithstanding the fact that the terminal has a single track throat, is stub-ended, and operated by steam equipment which has to be supplied with water, sand and coal, and have fires cleaned. This would not have been possible without the crossover arrangement at the end of the tracks. This terminal is not interlocked.

In some of the older terminals, curves of shorter radii were used than are desirable with the long-wheel-base engines now being operated. On account of the delay and inconvenience resulting from switching on curves, it is desirable to have straight tracks where it is necessary for a large amount of switching to be done.

Head End Equipment

A large percentage of the movements of empty rolling stock at passenger terminal stations is due to handling what is ordinarily referred to as head end equipment, consisting of baggage, mail and express cars. The loading and unloading of these cars from the station platforms without switching them to facilities provided for their exclusive use will reduce switching movements.

The articles handled in baggage cars consist principally of trunks, boxes, chests, suitcases, hand-bags, bicycles, baby carriages and corpses. Ordinarily the passenger delivers his baggage to the station shortly before leaving time for his train and demands it upon arrival at destination. This precludes the separation of baggage facilities from the station.

It is not generally customary to operate exclusive baggage trains, consequently, the logical place to handle baggage is on the station platforms. If proper facilities are provided, a considerable part of the baggage can be unloaded simultaneously with the disembarking of passengers. This, however, can not be accomplished if baggage cars are filled to capacity, as from 20 to 30 minutes are required for unloading them. Handling baggage may thus become the factor controlling the capacity of station tracks. Replies to the questionnaire indicate that the practice of switching baggage cars to special tracks assigned to that service is followed to but a small extent and by only 7 of the 22 terminals reporting, it being the general practice to handle baggage on trainshed tracks. As this is desirable for reducing switching movements, sufficient station tracks should be provided, when practicable, to permit this method of operation.

Mail can be handled in a building separate from the passenger station. The requirements of mail service, however, demand that it be handled with dispatch so as to insure prompt transfer of this traffic between trains and postal stations.

The postal business, since the inauguration of parcel post in 1913, has grown rapidly. The practice of shipping the greater part of the mail in pouches of a uniform size permits effective handling by means of chutes and conveyors, but the cost of equipping every platform in a trainshed with mechanical equipment would not be justifiable. Mechanical equipment must, therefore, be confined to special tracks on which most of the mail can be handled. The greater part of less than carload mail can be unloaded while baggage is being handled, but it is usually more economical to switch carload mail to tracks equipped with chutes and conveyors. The large amount of mail handled at many terminals has brought about the construction of postal sub-stations connecting with or adjacent to the station facilities. This arrangement results in economy of operation through relieving congestion and expediting the handling of mail.

In the Grand Central and Pennsylvania terminals at New York City, mail is handled from and to the postal sub-stations direct by mechanical means. Special tracks are assigned to mail service. While this increases switching movements, it is not so objectionable as might be supposed because a large part of the mail in these terminals is handled in solid mail trains which require no additional switching. Mail carried on regular passenger trains in less than carload lots is handled largely on station platforms in the same manner as baggage. In the Chicago & North Western station, Chicago, there are four conveyors on which arriving mail can be thrown and conveyed to the mail room located beneath the tracks. These four conveyors serve eight tracks. It is possible to handle practically all the arriving mail on these tracks, which results in a minimum of switching. There is a growing tendency to operate solid mail trains on special station tracks equipped with mechanical means for handling, which reduces switching movements.

The express business has been growing rapidly during the past few years and is approaching the character of package freight. The movement of express is not associated with passenger travel and could as well be handled in facilities separated from the passenger station, were it not that express matter is usually handled on passenger trains. The rapid growth of express business has seriously interfered with the operation of some passenger terminals. This has resulted in a tendency to separate express business from the passenger terminal which is advisable where the volume of express business is sufficient to justify doing so.

Of the 22 stations covered by replies to the questionnaire, two only, the Chicago and North Western at Chicago and the Pennsylvania at New York, have adopted the practice of handling express in separate terminals. At Buffalo, New York, an express terminal, similar in operation to a less than carload freight house, has been constructed, and in this express terminal most of the express packing business for that city is handled.

In many terminals express is handled on practically all trains, the express matter not being of sufficient volume to justify the operation of trains exclusively for that business. It is, therefore, desirable to consider methods of handling express at passenger terminals from which its elimination is not practicable. The method is largely dependent upon the amount of express handled.

In most large stations the volume of express business is so great that it cannot be handled properly without providing special facilities separate from the station for its exclusive use. The express building should be located near the station and in direct connection with the station platforms by means of tunnels and elevators. The plan of South Station, Boston, affords a satisfactory illustration. With this arrangement so much as practicable of the less than carload express can be handled on station platforms and trucked to the express building, thereby reducing switching movements. The cost of handling in this manner will probably be greater than the cost of switching to the express building, if cars are filled to capacity, but less if the cars are only partially filled. A track arrangement somewhat similar to the one used at South Station, Boston, may be used, wherein one of the station tracks is made to extend through the station track ladder, parallel and adjacent to the throat tracks, in order that express cars on the same side of the throat as the express building can be switched to the express tracks without necessitating their being handled through the throat.

Two general methods of locating tracks serving express buildings are used and their arrangement has a direct bearing on the number of switching movements. One plan consists of two or more tracks parallel to the side of the express building; this requires that cars on these be placed with doors opposite in order to permit trucking through cars to the express building, as in freight house operation. With this arrangement, it is inconvenient to remove cars from the tracks until the loading or unloading of entire setting is completed. In the Central of New Jersey Terminal at Jersey City crossovers have been provided between the tracks to facilitate switching. The other plan is illustrated in South Station, Boston, where short tracks are utilized, connected with one or more lead tracks which permits switching on any track without disturbing the cars on other tracks. It is possible by this arrangement to so design a yard that express can be handled to and from any car without having to spot or to truck through cars. From

the standpoint of switching movements, as well as terminal operation, the last mentioned scheme seems desirable, especially where a large number of cars are to be handled. The plan adopted in the Jersey City station is adapted to terminals where the express business is not so large. A combination of these two schemes was used in the St. Louis Terminal.

Due to the increasing tendency to operate solid express trains, an important feature to consider in connection with design of express facilities is provision of tracks of sufficient length to handle solid express trains without unnecessary breaking up and switching. If practicable, a connection should be provided whereby trains can head directly from the main tracks into the express yard without moving first into the terminal and then back to the express yard. Switching movements can be materially reduced on outbound as well as inbound trains if a run-around track is provided to permit the engine to be moved to the rear of the train. An important feature to be observed in the design of such facilities is to so arrange them that they can be reached by a direct forward movement.

Advantages of Trucking Platforms

It has been emphasized that elimination of switching movements is effected by handling baggage, mail, and express on station platforms. This, under usual conditions, is objectionable on account of interference with passengers, or delay in handling baggage, mail, and express while passengers occupy the platforms.

The trouble is eliminated in some stub stations by requiring all trains to back in, as at the St. Louis Terminal where tunnels are provided which permit trucking without interference with passengers or crossing tracks at grade. It has been eliminated at Richmond, Virginia, through use of a loop, which allows baggage and express cars to stand beyond the ramps on which passengers gain access to the station. In some stations interference is avoided by delaying the unloading of baggage, mail and express until passengers have passed the head end of the train. This latter method, however, tends to increase the unloading time and to correspondingly decrease the capacity of the terminal. In some of the more recently constructed stations trucking platforms have been provided, each track having on the one side a platform for handling passengers, and on the other a platform for handling baggage, mail and express. Such construction takes up more room than the usual arrangement of a platform to each pair of tracks, but not so much as might be supposed, on account of the fact that through the elimination of trucking, the passenger platforms can be made narrower than would be otherwise necessary, and again the passenger platforms may be used without inconvenience for columns supporting the trainshed. In a recent design for a station it was found that under the usual method of a pair of tracks for each platform, 30 tracks could be obtained, whereas the introduction of trucking platforms afforded in the same space 28 tracks. The use of trucking platforms resulted in a reduction of but seven per cent in the number of tracks, whereas the operation would have been so greatly facilitated, through the expedition with which trains could be handled, as to far more than compensate for that loss. The trucking platform can be used also for such facilities as air, water, ice, etc., thereby reserving the passenger platform for exclusive use of passengers.

The station of the Denver Union Terminal Railway Company, has trucking platforms and that company advises that they have proven very satisfactory. The operating officials recommended that trucking platforms should be used even in restricted territory where the extra platforms would limit the number of station tracks. They claim an increased terminal capacity as station employees can work unhindered by passengers, thereby permitting the handling of baggage, mail and express in less time than would otherwise be possible, increasing the capacity of the terminal to such an extent as to overcome the reduction in station tracks. This condition would obtain only in passenger terminals where there is a large amount of baggage, mail and express handled. The Grand Central Station of the Illinois Central at Memphis, Tenn., is an illustration of a station having part through and part stub tracks, with trucking platforms for through tracks and elevators with subway connections for baggage.

Yards Located on Side of Throat

In a terminal of considerable magnitude, particularly if express facilities are provided adjacent to the terminal, as at South Station, Boston, it may be desirable to locate yards on either side of the throat. This arrangement may be of value in facilitating switching movements, particularly if one of the station tracks is extended through the ladder tracks, parallel to and outside the throat, thereby permitting the handling of cars from several station tracks without occupation of the throat. With such auxiliary yards, cars may be assembled and switching done without interfering with movements through the throat. Switching movements, which might handle two or three cars from the station to the coach yard, can thus be eliminated by consolidating a number of cars in auxiliary yards, and handling them as one unit to the coach yard. The auxiliary yards may also be used to advantage if the terminal is taxed to capacity and it becomes necessary to remove some of the trains from the trainshed tracks before baggage, express and mail are entirely unloaded, to make room for arriving trains. The partially unloaded trains may be stored temporarily in the auxiliary yard until the rush period is passed. These auxiliary yards may be used to advantage as storage for engines of outbound trains awaiting departure.

Separation of Through and Suburban Services

There are advantages to be gained by the separation, when practicable, of through and suburban service. The requirements of the two are, in most cases, dissimilar and may be better accommodated in separate terminals, unless the peak loads of both occur at different periods of the day, in which event the same facilities may be used for both services. In most large terminals, however, the rush periods of both occur simultaneously. The requirements for waiting room space and baggage, mail and express facilities for suburban service are practically negligible as compared with requirements for through service. It is, therefore, possible to provide adequate facilities for suburban business at relatively small expense, as compared with requirements for through service.

With separation of the services, it may be practicable to extend the suburban service into the business district of the city and to construct the through passenger terminal, which must of necessity cover considerable area, farther from the business district, and on land of less value. The elimination of the frequent movements of suburban service through the throat will relieve congestion and make more desirable operating conditions for both services.

Location of Coach Yards

The design and location of coach yards have a direct bearing on the number of switching movements of locomotives and empty rolling stock. As mentioned, coach yards should be as close to the terminal as practicable. Many large terminals are union stations and individual coach yards are owned by tenant lines thus preventing the most economical development. In the case of some terminals, such as the Grand Central and the Pennsylvania Stations at New York, the extreme cost of land precluded the consideration of a site for these facilities adjacent to the station. The logical location of coach yards relative to the station depends large-

ly on the type of terminal. In the case of a stub terminal the coach yard must, of necessity, be on the same end of the station as the main approach tracks. Crossover movements, with resulting interference in the throat, may be eliminated by locating sections of the coach yard on both sides of the main tracks provided the terminal is of sufficient size to justify two yards, otherwise engine and coach facilities should both be on the same side of the main approach tracks. When the terminal is of sufficient magnitude to justify independent coach leads these should preferably be designed to extend by the throat and into the terminal as was done in the Central of New Jersey Station at Jersey City.

In the case of a through terminal or of combinations of the different types, the location of coach facilities must be considered in connection with each individual problem.

The design of the coach yard influences the number of movements of empty rolling stock. Where practicable, coach yards should be connected at both ends. This permits switching from either end and continuous movements through the yard, eliminating back-up movements. The tracks should be long enough to accommodate practically all of the longest trains. If this is not done, a number of switching movements necessary to cut trains will result. It is believed by some that a coach yard stubbed on one end is advisable, particularly where sleeping cars are cleaned, in order to permit trucking supplies to platforms located between the tracks without the necessity for crossing the lead tracks. This makes a desirable arrangement for employees, but is objectionable from the standpoint of reducing switching movements. It is desirable to equip all tracks with air, water, steam and charging facilities, when practicable, as considerable additional switching results if tracks are not so equipped.

A practice has been adopted in a few terminals of providing separate facilities for dining cars, which requires that diners be switched to a commissary track for supplies. This increases switching movements. All of the replies except two recommend that dining cars be supplied at their regular position in the trains.

An efficient method of marking bad order cars to reduce switching has been adopted in some terminals. Two kinds of colored tags or cards are used, one white, indicating light repairs which can be made on the coach yard tracks, the other red, indicating heavy repairs for which cars must be sent to the repair tracks. If a white card is attached, the car is switched with others to the coach yard, but where red tags are used, the cars are set aside for transfer to the repair yard. By setting out bad order cars at the time the train is being put into the coach yard, unnecessary switching is eliminated.

Turning of Equipment

One of the most important features in terminal design and operation to be considered in discussing reduction of movements of locomotives and empty rolling stock is that of turning of equipment. If turning cannot be done expeditiously, unnecessary switching movements result. This can best be illustrated by a study of the manner in which turning of equipment may be accomplished in a stub terminal where no special provision has been made for this movement. It is the usual practice to locate baggage, mail and express cars on the front end of the train, immediately behind the locomotive. Before an arriving train can be made ready to depart from the terminal it is necessary to reverse its direction. If a wye or loop is not available for that purpose it becomes necessary to switch the cars to a turntable, reverse their direction and again handle them back to the coach tracks. If a wye is used for turning and is located some distance from the terminal, as is frequently the case, the cars to be turned are assembled in cuts and handled to the wye and then back to the storage yard, after which it becomes necessary to switch these cars to their respective tracks. This involves a large amount of switching. It is often practicable to so design a terminal as to largely eliminate such switching movements. The loop arrangement is, where practicable, ideal. The Grand Central Terminal, New York City is a good illustration. The Pennsylvania Terminal when considered in connection with Sunnyside Yard is perhaps the best example of an American through terminal in its provisions for turning equipment. If it is not practicable to have a loop in connection with a terminal the next most efficient method for turning is the use of a wye.

In the Union Station, St. Louis, the wyes are located immediately back of the station, and trains can be turned upon arrival or departure as desired. If a wye is used for turning of equipment, it should, if practicable be located between the station and the coach yards in order to effect the movement without unnecessary switching.

Engine Facilities

Regardless of whether movements are accomplished by road or switch engines, it is essential, in order to eliminate conflicting movements, to locate the engine facilities on the same side of the main track as the coach yards and as close as possible thereto. It is desirable to have independent leads connecting the engine facilities with the throat of the yard, where practicable, as was done in the case of the Jersey City Terminal.

Engine facilities should be arranged to permit the proper sequence of operation, so that back-up or crossover movements are not necessary in utilizing the various facilities. The usual practice is to locate cinder pits in front of the engine house, so that fires may be cleaned before the engine enters the house. It is customary to provide coal, sand and water facilities on the departure track so that engines can be supplied before proceeding to the station. On some of the older installations it is necessary for engines to make three separate stops for these supplies. In modern plants, it is the usual practice to secure coal and sand at the same location, and at some terminals water columns are provided so that engines may be supplied with coal, water and sand at one setting.

The operation of most locomotive terminals makes receiving and departure tracks for engines essential, as the work can then be accomplished with a smaller force of employees. The large number of engines necessary for the peak load can be accumulated in the auxiliary yards and worked in or out as fast as the number of employees will permit.

Right hand operation is the usual method, although sometimes this induces crossover movements. For this reason, it may be advantageous to reverse the method of operation within the terminal limits. In the case of the Jersey City terminal, left hand operation between the station and the engine facilities was adopted.

Electrification

Electrification of a terminal, as a means of reducing movements of locomotives and empty rolling stock, has been effective in certain stations where adopted for that purpose. A notable example of this is the Broad Street terminal, Philadelphia. The two types of passenger service which have been referred to as through and suburban are in most cases so different in character as to justify different types of motor equipment. These will be discussed separately.

In through service, the electric locomotive is used to a transfer point. Beyond this point, frequently located at less than a full operating division distance from the terminal, a steam locomotive is substituted. The advantage of electrification of through passenger service, so far as reduc-

tion of movements of locomotives and empty rolling stock at passenger terminal stations is concerned, is that the electric locomotives can be operated equally well in either direction. This eliminates the necessity for all movements which would otherwise be required to turn locomotives. An electric locomotive does not require the ordinary coal, cinder and water facilities, and consequently all movements necessary in connection with these facilities are eliminated.

In suburban service it is the general practice to carry the electrification to the limits of its operation, which makes possible the use of a rolling stock adapted solely to suburban traffic. This permits multiple unit equipment in which the cars equipped with motors may be grouped in trains without regard to end relation or sequence and controlled from either end of the train. Where the service does not justify the use of all motor cars, trailers, not so equipped, can be interspersed through the train and can be equipped with control apparatus that will permit the operation of the train from the trailers as well as from motor cars. The use of multiple unit equipment eliminates the switching movements necessary in transferring locomotives from one end of the train to the other, likewise the other movements incident to taking care of separate motive power. There is a gain in the capacity of the terminal due to the quicker acceleration of trains and shorter length of track occupied when there is no locomotive; and a number of trains may be stored on one track and dispatched therefrom without switching.

A small amount of switching may be required where trailers are used and likewise for sending motor cars to inspection pits for periodic inspection.

The trains, due to the fact that each car contains its own motive power or control, may be made of any practicable operating length, which in the case of steam operation is limited by the tractive effort of the locomotive. With the reduction in number of trains or increase in train length possible with electric operation, the number of switching movements and resulting terminal congestion are correspondingly reduced.

President Wants Emergency Authority

Would Not Desire, However, to Take Over Roads or Mines Except as Last Resort in Case of Grim Necessity

WASHINGTON, D. C.

WHILE PRESIDENT HARDING feels that if Congress is not to be in session he should be authorized to meet the situation in a great national emergency by a grant of power to take over temporarily for government operation the anthracite coal mines and perhaps certain railroads or systems, it was officially stated at the White House on Tuesday that the "last thing in the world" the President would want to do would be to exercise such power except "as a last resort in the case of grim necessity" and that to take over all the roads would be "unthinkable." He does not believe in government operation and if such authority were granted and exercised, which the President "hopes and prays" would never be necessary, it would be only under specific limitations depending on the conditions as they existed. However, it was made clear that the President has not asked Congress for such authority and does not intend to ask it in any formal way. If he had intended to, it was stated, he would have done so in his address to Congress on August 18.

However, while it is still the judgment of the President that he ought to be fortified with such authority if the Senate is going to take a recess, even if the House remains in session, it now appears unlikely that Congress will be willing to grant general power to the President to determine whether or not a sufficient emergency exists. This is partly due to opposition to the plan which crystallized on Saturday as the result of what is characterized at the White House as "unfortunate publicity," for which, however, the President did not criticise the press, following Senator Cummins' brief announcement that the government was considering taking over the mines and perhaps some of the railroads unless the situation should speedily improve.

A rather more complete and detailed explanation of the President's position on the question of government operation than is sometimes afforded was given on Tuesday. It was pointed out that while there is a popular impression that the President has the authority to do almost anything the public wants done, and while if the public welfare demanded it there probably would not be serious opposition to the taking over of the mines or certain roads temporarily, it would require rather a stretch of authority. The President regards the bituminous coal situation as "in the clear" since 90 per cent of the mines have signed up and approximately normal production is expected by another week and while he had no definite assurances he thought the anthracite strike would soon be settled. The government intends to press the enforcement of the laws, it was stated, and it was felt that perhaps the railroads have not yet completely demonstrated the performance of which they are capable, but if the fuel situation should be menaced by a paralysis of transportation the administration would regard it as its duty to take over the mines or certain roads. He was represented as believing that the grant of such authority would not have any effect on promoting a settlement of either of the strikes and that it might even delay it, but from his conversations with union leaders he does not believe they have the slightest wish for such legislation because they do not want the government to take only a few of the roads or perhaps only one road or system.

Careful consideration was given for a time to a plan for having certain roads taken over by federal receivers on the ground of inability to furnish adequate service but the President was convinced that while such a step would avoid the difficulties incident to compensating the roads which were experienced by the Railroad Administration it would not solve the problem as many roads are now in the hands of receivers and their situation is no different from that of the others.

The plans of the administration appeared to have marched up a hill and then marched down again between Friday night and Monday morning. At present writing the announced policy is to concentrate all efforts on promoting the movement and equitable distribution of coal at fair prices while awaiting the results of the latest efforts of Secretary Davis and Senator Pepper to bring the anthracite operators and the mine union together, and to learn the degree of success of the railroads in handling the bituminous coal production before talking further about government operation. The proposal that Congress enact legislation authorizing the President, if in his judgment the emergency should require it, to take over the mines or railroads has been temporarily abandoned and Congress or at least the House now proposes

to stay on the job to determine for itself whether the emergency develops.

For about 24 hours the earnest and persistent efforts of the President and of his various advisors to bring about peaceful, if not amicable, and immediate, if only temporary, settlements of the anthracite coal and railroad strikes seemed to have stumbled upon another form of encouragement to the strikers to hold on a little longer.

After a conference on the evening of August 25 at the White House between President Harding, Chairman Cummins of the Senate committee on interstate commerce, and Attorney General Daugherty, Senator Cummins announced that the anthracite operators and miners would be given one more opportunity to settle their differences but that unless there was a settlement within a few days he would introduce a bill authorizing the government to operate the mines. Also, he said, the railroads would be given a "reasonable" time in which to demonstrate their ability to furnish adequate service and those unable to do so would be taken over. He expressed confidence that legislation for such purposes could be rushed through Congress.

The announcement caused surprise because earlier in the day it had been stated officially at the White House that the President believed that further conferences on the anthracite situation would result in an adjustment and that the administration had no "new steps" in contemplation with reference to the railroad situation. It was understood that the President and his advisers felt that the railroad situation was less acute than that involving the anthracite supply, but that the temporary settlement of the bituminous strike had transformed the problem from one of production to one of transportation and distribution.

The announcement, however, or at least the way in which it was published, created a stronger impression than was desired by the President as to his intentions and it was soon apparent that it had caused surprise and concern among Republican leaders, some of whom went at once to the White House on Saturday morning to get the story at first hand, and on Saturday evening newspaper men were called to the White House and given a more detailed explanation. They were told by a White House spokesman that while President Harding wants Congress to give him the authority, whenever he may see fit to proclaim that a national emergency exists, in the event conditions should become so serious as to require it, he merely wanted the legislation before Congress recesses, as it was expected to do shortly, so as to be prepared for any condition that might arise while Congress is not in session, and that neither the introduction nor the passage of such legislation would indicate any determination on the part of the administration to make use of the authority, except in the case of an extreme emergency which he did not foresee. The President was still confident that such an emergency as would require such drastic action will be avoided.

The President in his public statements and in his talks to newspaper men has carefully refrained from uttering threats as to what he would do in any given situation and he has frequently taken the position that he prefers to give publicity to what he has done afterward than to what he may do in advance, because of the natural tendency of newspaper speculation. Occasionally, however, the efforts to maintain secrecy as to what the administration proposes to do have resulted in information reaching the press in the form of vague hints which readily lend themselves to exaggeration, that might have been prevented by a more definite statement.

Further conferences on the industrial situation were held during a week-end trip on the President's yacht, the Mayflower, on which Secretaries Hoover and Fall, Attorney General Daugherty and Senators Cummins and Kellogg were the guests of the President and after their return on Monday, Senator Cummins indicated that he might withhold the proposed bills for a while to await developments. At conferences on Monday also, it was decided that Congress should not adjourn but that the House should take a series of three-day recesses.

Strike Questions Debated in Senate

A demand for prompt and "drastic" action by the government to settle the railroad and anthracite coal strikes was precipitated in the Senate on August 24 by the introduction of bills requested by the President in his address to Congress on August 18 to create a coal investigating commission and to provide for a temporary restraint of coal prices. This was shortly after the announcement that the conferences between the anthracite operators and the mine union and the committee representing the Association of Railway Executives and the brotherhood leaders had failed to result in a settlement of either strike.

The only definite suggestion made in the debate for settling the strikes was that the government take over the coal mines or railroads or both, but there was less definiteness as to just how the government would proceed to induce the strikers to return to work after it took them over, particularly in the case of the anthracite miners, who are practically all unionized.

A joint resolution authorizing the President to take over and operate the coal mines, part or all of whose products are transported in interstate commerce, was introduced in the Senate on August 24 by Senator Walsh of Massachusetts. A bill to restrain profiteering in coal by authorizing the Interstate Commerce Commission to use its priority powers to give preference in car supply to fair price coal was also introduced by Senator Cummins and the Senate also began consideration of bills to create a coal investigating commission.

The resolution was introduced by Senator Walsh after a heated debate in which he and others had criticized the President for failure to settle the coal and railroad strikes and had demanded immediate action. Senator Cummins had replied with a defense of the President's course, pointing out that he had no power to settle a strike but had been using all his influence to bring about a settlement by mediation and asserting that if senators thought the President ought to have the power to take over the mines, the inaction was theirs if they failed to initiate the necessary legislation.

The discussion of government operation of the coal mines was continued on August 25 when Senator Edge of New Jersey introduced a bill giving the President blanket authority to acquire title by condemnation or otherwise to any or all of the coal mines of the United States for such period of time as he deems necessary, and to distribute the coal therefrom. The bill also provided for an appropriation of such amount as might be necessary.

Apparently there was an idea in the minds of some of those who talked of government operation that a bluff in that direction might be sufficient to force a settlement, in spite of the well-known fact that both the miners' union and the railroad unions have repeatedly advocated government ownership and would naturally decline to settle if that result were to be the alternative. "Emphatic approval of the federal threat to seize and operate the hard coal mines in the event operators and miners fail to reach an agreement was voiced by President Lewis of the United Mine Workers," according to a press dispatch on Saturday.

Also some of those who talked as if government operation were a panacea apparently failed to recall that there was a rather extensive strike of shop employees—although it was declared to be unauthorized—in the summer of 1919 while the government was still operating the railroads and that the government settled it by allowing a small increase in wages, inserting in the Transportation Act a provision for

the creation of the Labor Board to pass on a further increase and turning the railroads back to private management with the wage demand still unadjusted.

The debate in the Senate indicates that a good many of our most prominent statesmen have paid more attention to fears as to what might happen if there were no anthracite this winter than they have to the fact that the railroads have continued throughout the shop stripe to handle over 850,000 carloads of freight a week, and that, although there has been some car shortage, commodities other than coal have been moving in greater volume than ever before at this season of the year. It was also apparent that some senators who are willing to go so far as to characterize strikes as criminal are not yet ready to withhold criticism from the railroad managements that are trying to make strikes unhealthy by standing firmly for the principle than a man cannot be a striker and retain a first lien on his job at the same time.

Bills for Investigation of Coal Industry and to Restrain Profiteering

The House had passed on August 23 the Winslow bill, to create the United States Coal Commission to secure information in connection with questions relating to interstate commerce in coal, one of the measures proposed by the President in his address to Congress on August 18. The Senate committee on education and labor had considered a somewhat similar bill introduced by Senator Borah but had written a substitute for it which it was proposed to substitute for the House bill.

The Cummins bill, intended to meet the President's suggestion for some form of temporary control of prices, was drafted under the direction of the Presidential Fuel Committee, composed of representatives of the Departments of Commerce, Interior, Justice and the Interstate Commerce Commission and submitted to the President by Secretary Hoover.

In his letter to the President, Secretary Hoover enclosed three draft measures offering alternative bases for mitigation of profiteering and for better distribution of coal during the present emergency. He said he had been advised that any direct legislation for the repression of extortionate prices has no constitutional basis and that the three alternatives are: Voluntary agreement with operators and distributors of coal, extension of the powers of the Interstate Commerce Commission to give priority to the movement of non-profiteering coal, and, third, for the federal government to enter the business of purchase and distribution of coal and by such competition to "put the balance wheel in the price situation." The third plan was the one which has been urged by the President in his address. Secretary Hoover said the necessary legislation for the latter two alternatives had been drafted, but that the commission prefers the draft in which federal authority is exerted through extension of the priority powers of the Interstate Commerce Commission as being less cumbersome, requiring less extension in the federal organization and being more expeditious of application than the alternative plan through actual government possession of coal.

"The committee is in agreement, he said, that the exertion of such powers in times of peace is highly distasteful, and can only be justified as a measure necessary to provide for the effect of a famine in so necessary a commodity.

"We are deeply impressed with the fact that, due to the almost total exhaustion of coal stocks and the inevitable and growing shortage in transportation, the difficulties of the country will be very great, even with the resumption of coal production, and unless there is legislation enacted that will curb profiteering and will give control to distribution, there will be great suffering and difficulties during the period of readjustment.

"The federal fuel distribution set up by the committee under Mr. Spencer upon a basis of voluntary co-operation between government departments, state agencies and the majority of operators of coal mines, is without funds for even incidental expenses, and without this agency it would be impossible at the present moment to maintain the essential public utilities and other services in the country. Even this service must shortly be abandoned unless provision is made by appropriation, and they cannot expect to be successful in the rapidly tightening situation and in the face of reduced transportation facilities unless its authority is increased."

Text of the Cummins Bill

The text of Senator Cummins's bill to control coal prices and distribution is as follows:

"A bill to declare an emergency respecting the production, distribution and price of coal and other fuel, to create an additional agency of the United States with respect thereto, to enlarge the powers of the Interstate Commerce Commission in establishing priorities and embargoes in the transportation of coal and other fuel in interstate commerce in order to prevent the exacting of unreasonably high prices for these commodities, and for other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

"That by reason of prolonged interruption in the operation of a substantial part of the coal mining industry in the United States and of impairment in the service of certain common carriers within the jurisdiction of the Interstate Commerce Commission and engaged in commerce among the states, a national emergency exists which threatens to obstruct and hamper the operation of the United States and its several departments, the transportation of the mails, the operation of carriers engaged in commerce among the several states and with foreign countries, and to furnish an opportunity for the disposition of coal and other fuel at unreasonably high prices.

"2. The powers of the Interstate Commerce Commission under an 'Act to Regulate Commerce,' approved Feb. 4, 1887, as amended, including the Transportation act of 1920, and especially under Section 402 of said Transportation act, are, during the aforesaid emergency, enlarged to include the authority to issue orders for priorities, embargoes and other suitable measures in favor or against any carrier or region, or person, or corporation, and to take any other necessary and appropriate steps for the priority in transportation and for the equitable distribution of coal or other fuel, so as best to meet the emergency and serve the public interest, and to prevent upon the part of any person, partnership, association, or corporation the purchase or sale of coal or other fuel at prices unjustly or unreasonably high.

"3. For the purpose of assisting in carrying into effect the orders of the Interstate Commerce Commission made under existing laws, or under Section 2 hereof, there is hereby created and established an agency of the United States to be known as 'The Federal Fuel Distribution Commission,' and there shall be appointed by the President a federal fuel distributor who shall ascertain:

"A—Whether there exists within the United States, or any part thereof, shortage of coal or other fuel and the extent of such shortage.

"B—The fields of production of coal and other fuel and the principal markets to which such production is usually transported and distributed, and the means and methods of distribution thereat;

"C—The prices normally and usually charged for such coal and other fuel, and whether current prices, considering the costs of production and distribution, with fair profits, are just and reasonable;

"D—The nature and location of the consumers, whether persons, firms, corporations, municipalities or communities, which should receive priority in transportation and distribution under the acts to regulate commerce administered by the Interstate Commerce Commission, including the Transportation act of 1920, in time of shortage of coal and other fuel or the transportation thereof, to the end that an equitable distribution of coal or other fuel may be secured so as to best meet the emergency and serve the public interests.

"The Interstate Commerce Commission is hereby directed to receive and consider the recommendation of the Federal Fuel Distributor, based upon his reports upon the foregoing subjects and other information which it may secure in any manner authorized by law.

"4. The Federal Fuel Distributor may make such rules, regulations and orders as may be necessary to carry out the provisions of this act, and may co-operate with any department or agency of the government, any state, territory or department agency or political sub-division thereof, or any person or persons, and may avail himself of the advice and assistance of any department, commission or board of the government, and may appoint or create any agent or agency to facilitate the power and authority hereby conferred; and he shall have the power to appoint, remove and fix the compensation of such officers and employees not in conflict with existing laws, and make such expenditures for rent, travel and other operating expenses as shall be necessary for the due and effective administration of this act.

"5. Whenever the President shall be of the opinion that the

national emergency hereby declared has passed, he shall by proclamation declare the same, and thereupon this act shall no longer be in force or effect.

"6. For the enforcement of the provisions of this act, including personal services and every other expense incident to the enforcement thereof, there is hereby appropriated out of any money in the Treasury not otherwise appropriated, the sum of $250,000, or so much thereof as may be necessary."

The committee on interstate commerce held a meeting to consider the Cummins bill on Saturday but there was not a full attendance and Senator Pomerene and others were reported as insistent upon having hearings on the bill before voting to report it out. On Monday, however, the committee voted a report without recommendation on the bill with amendments limiting it strictly to one year and to interstate commerce. A bill similar to the Cummins bill enlarging the emergency powers of the Interstate Commerce Commission was introduced in the House on August 26 by Representative Winslow, but after a discussion in the committee on interstate and foreign commerce it was decided to hold a hearing on Monday. After the hearing the committee voted to report the bill favorably.

Secretary Hoover and Commissioner Aitchison appeared before the House committee in support of the bill. Mr. Hoover said that the theory that unchecked prices may lead to increased production has no application to the present situation because the total production of coal will be limited by the capacity of the transportation machine and would not be enhanced by increased prices. He expressed the opinion that a distribution of 9,000,000 tons a week would prevent any general closing up of industry. Mr. Aitchison said that the present powers of the Interstate Commerce Commission are not broad enough to let it give or refuse cars on the basis of their compliance or non-compliance with fair price levels.

Mr. Hoover said that production of anthracite is now 36,000,000 tons behind and that this cannot be recovered. Therefore an enormous burden will fall upon the bituminous producers and with the deteriorated condition of railroad equipment it would be impossible to move anywhere near sufficient coal to meet all needs. A production of 10,000,000 tons a week, he said, would give the government agency 5,000,000 to 6,000,000 tons a week for distribution, whereas it has had only about 1,000,000 tons.

J. D. A. Morrow, vice-president of the National Coal Association, and Edgar Wallace, legislative agent of the American Federation of Labor, opposed the price-control features of the bill.

Senator Calder, of New York, had begun the debate in the Senate on August 24 by declaring that the anthracite operators and the miners should be given 48 hours' notice that they must settle their differences and that if they fail to do so Congress should give the President authority to take over the mines. Senator Walsh said that if the President does not already possess such authority he should have suggested it to Congress. Senator Cummins pointed out that he had had no power to settle the strikes but had sought to bring about a settlement by mediation and had not asked for legislation because the negotiations were still in progress. After he had declared repeatedly that if Senators thought the President should be given authority to take over the roads or the mines, it was their duty to initiate the legislation without waiting for the President to ask it, Senator Walsh introduced his resolution.

Senator Lenroot, of Wisconsin, said it seemed to him that the time had come when the power should be given to the President, to be exercised by him in his discretion, to take over the railways, or any part of them that he may deem necessary, and to take over the anthracite mines, if he deems necessary "so that the government may be put in the place of one of the parties instead of merely being a mediator." He said he should prefer, however, that the President would himself ask that the power be given him.

Senator Borah, of Idaho, said he would be very sorry if as a result of the day's debate, the country should receive the impression that Congress was going to settle the coal strike. The states should co-operate, he said.

Senator Cummins took part in the debate mainly to answer criticisms of the President for inaction. He said he had introduced a bill at the request of the President to deal with the immediate emergency and that at the next session of Congress will come the time for the discussion on the question "as to what place unionism should occupy in the civilization of the United States."

"I have long believed," he said, "that it ought to be a crime for employees to strike wherever the government undertakes to adjudicate for them the disputes which arise between them and their employers. That is the final remedy, in my opinion. I do not think our civilization can long endure if a body of artisans, composing the whole number of artisans in that class in the country, can leave their employment by concert and conspiracy at the same time."

"But that is not the question now," he said. "We are now confronted with a situation that needs temporary legislation." He said that Senators Calder and Walsh were not at fault for not introducing bills authorizing the taking over of the anthracite mines "because we have all been in that attitude of hope and expectation, believing that the difficulties would disappear. But it is apparent now that they will not disappear and that all authority which the Constitution enables us to give to the executive or to other departments of the government must be given to meet the extraordinary emergency which has appeared and which is now more critical and menacing than it has ever been before."

Senator Nelson, of Minnesota, declared that "the root of this whole difficulty is unionism. It is not necessary to have the government operate the anthracite mines. Throw the mines open, allow them to run under the open-shop principle and protect them in that and you will have an abundance of coal, and you will get it at a lower price than when there is union mining."

Senator Cummins admitted that his bill would not produce any anthracite coal. He said he still had a lingering hope that the operators will come to an agreement with their employees, but that "if it is believed that the President by taking over the mines can secure men who will produce coal, then he ought to be given the power to do it. However," he said, "it is still to be doubted whether the President would be any more successful in hiring men to enter the coal mines than the operators have been, because he will either have to agree to their terms or he may not be able to secure the men."

Senator Cummins said he thought both sides are to blame in the anthracite strike and the railroad strike, and that they ought to have been composed long ago, but that the President had no power whatsoever to do so and had used all the influence he had as a mediator in the effort to do exact justice between the parties, "hoping that it would not be necessary to resort to the extraordinary measures which are now proposed and with which I am in full sympathy."

The Borah bill, as amended in committee, differs from the House bill in that it provides for a commission of five members to be appointed by the President, while the House bill provides for nine to be appointed by the President with the restriction that no one interested in the coal industry may be appointed. The original Borah bill had provided for representation of both operators and miners but this was omitted at the request of the President, who desired a commission representing only the public. The new Borah bill is also more specific than the House bill in naming the subjects to be considered by the commission in its investigation, including "the causes which from time to time induce strikes," and recommendations as to "standardizing the mines upon the basis of their economic productive capacity and regard-

ing the closing down of mines which, by reason of their natural limitations, or other conditions, fall below the standard." It also calls for a report as to the advisability or wisdom of nationalizing the coal industry.

Consideration of the Borah bill was taken up in the Senate on August 25, the bonus bill being displaced for that purpose, but on August 26 it was again set aside until Tuesday.

While there seemed to be general approval of the purpose of the bill, several senators expressed impatience for immediate action. Senator Robinson, of Arkansas, said he would join with others "now or tomorrow to provide by solemn legislative act that anyone conspiring to hinder, prevent or restrain interstate commerce in the transportation of coal shall incur a severe penalty, and to "make that law applicable to mine owners, to mine operators and to mine workers." That, however, he said, would not mine coal and there ought to be a settlement now.

Senator Fletcher of Florida, calling attention to the President's statement that the country is at the mercy of the United Mine Workers, said that such a situation ought not to be allowed to last 24 hours, much less until Congress meets in December. "In other words," he said, "here is a group of people at the throats of this government and this whole country and. we will argue the question with them next December, if we live!"

Senator Townsend, of Michigan, said that all anyone now hopes for is a temporary solution which will tend to relieve the public, but what Congress ought to do is to enact some legislation which would afford a reasonable method for the prevention of the strikes which periodically occur.

The Cummins and Winslow bills were reported to the Senate and House, respectively, on Tuesday and debate was begun in the House. In his report to the Senate, Senator Cummins said in part:

"It may be that the law as it is conferred upon the commission what Section 4 of this bill explicitly grants, but the commission or some of its members are in doubt about it and if the Congress believes that the commission ought to exercise the power of controlling the transportation of coal so as to prevent both coal operators and coal dealers from exacting excessive prices for coal, then there ought to be no hesitation in clothing the commission with undoubted authority upon the subject.

"The present situation is an exceedingly grave one; at this time there is sharp coal shortage, of which some operators and many dealers are taking advantage. Inasmuch as the strike in most of the bituminous fields has been brought to an end, the bituminous coal production will constantly increase, and if it be assumed that the railroads could move promptly the coal that will be mined, it might be that the opportunity for extortion would shortly disappear. The fact is, however, that some of the railroads which carry a large part of the coal traffic are by reason of the railroad strike unable to move the coal that is actually being produced to the points of destination and therefore unless the railroads can speedily increase their facilities a coal shortage in many parts of the country is bound to continue and we will be in the same position as if coal were not being produced.

"It is to be observed that the action of the commission under the authority which it has, or authority which this bill gives it, is directed solely to interstate railroad carriers and will operate to prevent the transportation of coal under certain conditions, the control being confined to interstate shipments. The transactions wholly within a state must be dealt with by the state authorities. Sections 3 and 4 of the bill authorize the President to appoint a federal fuel distributer and this distributer does nothing more than to help carry out orders of the Interstate Commerce Commission to make the necessary investigation and to recommend to the commission the priorities and embargoes which in the opinion of the distributer should be issued and established."

In the House there were some suggestions that the President ought to be granted the emergency power he desires to take over mines or railroads and Representative Johnson of South Dakota said he would offer an amendment to the Winslow bill for that purpose. Representative Mondell, said, however, that Congress would be in session and that in his opinion it is not likely to take any action looking to the taking over of the mines or railroads in time of peace except in the face of an emergency so immediate and pressing that such action would constitute the only way out.

Attorney General Instructs Vigorous Prosecution

As a result of renewed reports of violence in various parts of the country, the attorney general on August 29 sent to all United States district attorneys a telegram instructing them promptly and vigorously to prosecute violators of injunctions obtained by railroads. He also announced the appointment of Hiram C. Todd as an assistant to the attorney general to take charge of the situation in the western states, with headquarters at Los Angeles. The telegram sent to the district attorneys read:

"In cases where injunctions have been violated, you are instructed under the direction of the court to promptly and vigorously prosecute the violators and urge the court to make sentences sufficiently severe to prevent repetition of such violations and as a deterrent to others. Transportation and the mails must no longer be interfered with and the laws must be enforced impressively. Report all such proceedings to me."

The attorney general has received numerous reports that the condition in which many locomotives is reported represents something more than ordinary wear and tear or shortage of repair work and he is said to have considerable evidence of sabotage in certain places such as sand in the bearings of locomotives, and reports received by the department indicate that locomotives which the Santa Fe employees refused to take out of Needles were in entirely safe condition for use.

William Jennings Bryan arrived in Washington on Monday prepared to offer his advice to the government to take over coal mines and railroads temporarily to "put an end to an intolerable situation." He delivered a letter to Senator Walsh expressing approval of his resolution to authorize the President to take over the mines, and also talked with various other members of Congress about it.

Zinc as a Sheet Metal in Building Construction

ONE OF THE RATHER remarkable results of intensive manufacture incident to the war has been the introduction of sheet and strip zinc as a building material. The development has been commercial rather than metallurgical since zinc, which is now coming into common use for building purposes in this country, has actually seen service on buildings in Europe for over a hundred years. In other words, it has been a case of finding new uses for an old material.

Zinc has a number of properties which commend it for the outer covering of buildings, particularly for such uses as roofs, gutters, corrugated siding, down spouts, weather strips, etc. It does not corrode or rust like iron or steel. It is cheaper than any of the other non-ferrous metals and it is readily worked into the various shapes necessary for its convenient use. Zinc has strength in tension of about 21,000 lb. per sq. in. Its ductility is less than that of soft steel but not enough less to cause any difficulty in crimping, curving or otherwise working the material. When zinc oxidizes on exposure to the elements the effect is to give it a coating of a silver gray color that is not only pleasing in ap-

pearance but serves to protect the metal underneath. Therefore, the occasion for painting is done away with entirely as regards protection and also in many cases for considerations of appearance. This elimination of the painting in some cases makes the zince as cheap as steel.

The service which zinc sheets are giving because of its properties has led to its recognition as a building covering by a number of the railroads. The new pier of the Erie at Weehawken will be covered entirely with this material. It has also been specified as a covering for coaling station structures by the Illinois Central; the Burlington; the Chicago, Great Western; the Central of Georgia and other roads. The Chicago & North Western is applying zinc shingles to a signal tower in Chicago and is using corrugated siding and roofing on a coaling station at the same point.

Zinc has two properties which require the observance of certain precautions in their use. It has a coefficient of expansion of 2.6 times that of steel; therefore, it must be applied in a manner that allows adequately for change of size of the sheet with changes of temperature. By the development of certain forms of expansion joints that now thoroughly establish standard practice, this introduces no problem to the erector. In cases where zinc comes in contact with other metals with the presence of water, electrolytic action takes place which tends to dissolve the zinc. Therefore, where zinc is used in gutters, down spouts and other places where it is subject to moisture, care must be taken to see that the zinc does not come in contact with other metal. On the other hand, it has been found entirely practicable to cover structural steel frames of buildings with zinc corrugated siding and zinc roofing without taking any of these special precautions.

As mentioned before, the zinc strips and zinc sheets are being used for a variety of purposes. One application which is receiving the particular attention of one manufacturer, the New Jersey Zinc Company, is gutters and down spouts which are used extensively. A large amount of interest is being given also to the design of exterior coverings of buildings from roof to ground line, while a development which is receiving the particular attention of another firm, the Illinois Zinc Company, is zinc shingles. These have an interlocking design not unlike the interlocking roofing tile but with the advantage that they are nailed to the roof boards like ordinary shingles. Owing to the fact that these shingles weigh no more than the ordinary wooden shingles, the roof construction need be no stronger than that ordinarily provided.

W. A. Webb Becomes Head of South Australian Railways

WILLIAM A. WEBB, formerly general manager of the Missouri, Kansas & Texas Railway, has been appointed chief commissioner of the State Railways of South Australia. He will sail early in October for Adelaide, South Australia, where his headquarters will be.

The chief commissioner of the railways of South Australia is their active manager. This is one of several notable cases in which foreign railways have come to the United States for managers. The last case of the kind which attracted widespread attention was that in which Henry W. Thornton, general superintendent of the Long Island Railroad, was appointed general manager of the Great Eastern Railway of England. He is now Major General Sir Henry Thornton, having acquired his military title as head of the British transportation forces during the war.

The State Railway System of South Australia has a total of 2,333 miles of line. Of this, 1,124 miles has a 5 ft. 3 in. gage, and 1,209 miles has a 3 ft. 6 in. gage. They have never been very prosperous, and in the year ended June 30, 1921, incurred a deficit of $2,733,550 after interest. The South Australian Railways form an important connecting link between the railways of the states of New South Wales and Victoria on the east and Western Australia on the west. The north-south transcontinental line from Port Darwin will, when completed, depend upon this system for connection with the other railways of the continent. One of the most important problems with which Australia's railways are now faced, beside that of insufficient earnings, is the unification of gages which are now so varied that transshipments are frequently necessary.

The state of South Australia lies in the south-central part of the continent and has an area of 380,070 square miles—about equal to that of Texas, Oklahoma and Louisiana combined. The topography of the state is varied—in one part there are mountains and there are also a number of rather large lakes; the predominant landscape, however, is the high plain, which in the extreme north and west becomes a desert. The state is predominantly agricultural, wheat and grapes being the most important crops. Other important products are wool and copper. The state has a population of about 450,000 and Adelaide, its capital city, has 190,000.

Mr. Webb was born at Eaton, Ohio, on May 16, 1878, and received a high school education there. He entered railway service with the Colorado Midland on October 16, 1890, and until November, 1900, served consecutively as messenger, roadmaster's clerk, trainmaster's clerk, telegraph operator, clerk and stenographer to superintendent, chief clerk to superintendent and stenographer to the president and general manager. In November, 1900, he went with the Colorado & Southern as secretary to the president and general manager, which position he held until May, 1903. He was then appointed chief clerk to the vice-president and general manager, which position he held until he was promoted to that of assistant to the vice-president in October, 1905.

He remained in this position until June, 1911, when he became general manager of the Texas Central. On May 22, 1912, he became assistant to the president of the Missouri, Kansas & Texas. He subsequently served as general superintendent, vice-president and general manager and chief operating officer of this railway, and in 1918 became general manager, under Government control of the Missouri, Kansas & Texas, the Wichita Falls & Northwestern, the Fort Worth & Denver City and the Houston & Texas Central, and later had his jurisdiction extended to the Abilene & Southern and the Union Terminal of Dallas, with headquarters at Dallas. In 1919 he became a member of Railway Board of Adjustment No. 1 of the United States Railroad Administration, with offices in Washington. On the return of the railways to private operation on March 1, 1920, he became vice-president and general manager of the St. Louis Southwestern. He resigned this position on May 10, 1921, and subsequently was elected to the position of president of the Cambria & Indiana Railroad, with office at Philadelphia.

As this brief biography of Mr. Webb shows, he has had long experience as an operating officer and operating executive on railways in the West and Southwest. It is probable that conditions in that territory resemble those in the state of South Australia as much as they do in any part of this Country.

It is believed that this is the first case in which a railway man who has received all his training in the United States has become the manager of a system of state railways, although some years ago Sir Thomas Tait, formerly general manager of the Canadian Pacific, became chief commissioner of one of the systems of state railways in Australia.

Coal Loading Shows Rapid Increase

WASHINGTON, D. C.

THE SETTLEMENT of the coal strike in most of the bituminous mines has resulted in a large increase in coal loading. Whereas during June the average daily loading was 15,540 cars, the loading on August 21 reached 19,048 cars. There was the usual reduction during the next three days to 17,772 on Tuesday, 18,169 on Wednesday and 18,784 on Thursday, but on Friday there was an increase to 21,866 cars and on Saturday to 22,178. For the week the total was 117,730 cars or approximately 6,500,000 tons. The highest previous loading since the coal strike was about 94,000 cars.

Coal loading for last Friday in the Allegheny district was 11.6 per cent in excess of the average daily loading for August last year, while in the Pocahontas district, an increase of 15.4 per cent was shown. Coal loading last Friday in the Southern district exceeded the daily average for August one year ago by 5.8 per cent. In the Eastern, Northwestern, Central Western and Southwestern districts, however, decreases compared with the daily average one year ago were reported. The three districts showing increases in production, however, are those in which non-union mining has been carried on throughout the suspension of work in union fields and in which earliest settlements were made. Practically all the railroads in those districts show a heavier movement than during the corresponding period last year. The districts showing decreases in coal production, however, are confined to producing territories where there was almost complete suspension of mining and where settlement was last made or had not yet been effected. The decreases shown are due entirely to lack of mining production and not in any way to any transportation deficiencies. Approximately 7,000 carloads of coal were consigned to lake ports last week. Because of the general resumption of bituminous mining it was announced on Monday, no more coal will be directed by the federal fuel distributor to the different states—except the Upper Lakes—under emergency orders under Class 1 priority unless the situation should again warrant such forced measures. All coal will be permitted to move as far as practicable under the Interstate Commerce Commission classified priorities. Thus the federal fuel distributor will issue no more No. 1 priority orders for coal to move to state organizations except possibly in connection with a plan for lake shipments. Coal shippers holding priority No. 1 orders placed through the federal fuel distribution agencies are expected to complete shipments on such orders unless by mutual agreement between shippers and the consignee. The issuance of emergency priority orders of Class 1 for railroads will continue until such time as the Interstate Commerce Commission has provided other plans for caring for the railroad requirements.

A new plan was being worked out under the Interstate Commerce Commission to secure an assurance of reasonable lake movement up to the capacity of lake transport.

The agreement as to price restraint with the non-union operators expired on Monday with the resumption of the union bituminous mines and the various district and general committees will cease to function as of September 2. About 70 per cent of the non-union operators have held to this agreement, and it is felt that the public has been saved a very large sum.

Pending the action of Congress and the state authorities, the only restraint upon price is the schedule of fair prices declared by governors or state coal commissioners in some of the states, to which it is earnestly hoped the operators and dealers will conform. These prices are about $4.50 per ton maximum in the Kentucky, Tennessee, West Virginia and Virginia fields, $3.75 for Pennsylvania thick vein and $4.75 for thin veins. Standards have not yet been set in other states.

The legislation before Congress can only control the price of coal moving over state lines, that is in interstate commerce. The price of coal produced and consumed in a state, together with the charges which wholesalers and retailers within the state may make, the latter including even interstate coal, should be controlled by the state authorities. Therefore, there can be no real control of profiteering unless the state authorities act.

Owing to the rapidity with which operations are being resumed in various bituminous fields, the United States Geological Survey estimated the present week's coal production at 8,000,000 tons. Revised estimates for last week are for a production of 6,400,000 tons. Coal was being produced Friday, August 25, at the rate of 7,400,000 tons weekly.

Authorizations were given by the Federal Fuel Distribution Committee for movement to the Great Lakes of all coal loaded in certain districts in West Virginia and eastern Kentucky on Monday, August 28. The districts included in the order are the same as those covered by the committee's program for lake shipments on Monday, Wednesday and Saturday of last week.

Notwithstanding the factor of a greatly increased production of bituminous coal, the Fuel Distribution Committee considers that the movement of a sufficient tonnage of coal to the Great Lakes region before the close of navigation is a serious problem. A program for facilitating the movement of the required tonnage is now being considered and will probably be announced very shortly. The tonnage of coal now at the head of the Great Lakes is from force of circumstances considerably lower than the amount of such stocks at this period in 1921 or in 1920.

Authorization has been placed in the Bluefield, West Virginia, district for the movement of a considerable tonnage of coal to the State Fuel Administration of New York, for distribution in that State to meet emergency needs. This coal will move to tidewater at Hampton Roads, Virginia.

The effect of a sharply increased coal production from fields recently reopened was manifested in the decreasing number of applications for emergency coal being received by Fuel Distributor Spencer. At the beginning of last week these applications were being received in great numbers. With the reopening of various coal fields many of these applications were returned with the advice to the applicants that their fuel requirements can no doubt best be taken care of in their own states.

A considerable number of authorizations for coal to be shipped from Kentucky and West Virginia districts to gas and electric light public utilities and ice plants in Indiana, Michigan, Illinois, Virginia and Ohio, and to canneries in Indiana and Michigan have been made by the Federal Fuel Distribution Committee.

At the request of Governor Baxter of Maine, a considerable tonnage of coal from southern West Virginia will be moved to alleviate the critical domestic fuel shortage in that state.

On representation of the district coal committee at Birmingham, Alabama, that the movement of railway fuel in that state could at this juncture probably best be handled on a pro-rata basis, Fuel Distributor Spencer has authorized the cancellation of Class 1 priorities for railway fuel heretofore placed in that state. The district committee at Birmingham, has been advised that, if the pro rata plan of distribution does not take care of railway fuel requirements, Class 1 priorities will be issued for all railway coal to come from Alabama.

The increase in production of bituminous coal, and the opening of fields recently closed, near to important markets, have made it possible for the Interstate Commerce Commission to rearrange the list of priority uses embraced in Service Order No. 23, as previously amended. By further amendments issued on August 29 the emergency uses are all embraced in Class 2; Class 1 is reserved for such extraordinary

cases as may be designated from time to time by the commission; all other uses fall within Class 3.

Certain pressing needs of the railroads and of the portion of the Northwest which must practically be served by water before the close of lake navigation will be met by proper assignments of particular shipments to Class 1.

The commission says that certificates from state fuel administrators or committees as to the character of use and bona-fides of the transaction will be deemed sufficient evidence for the carriers in carrying out the direction for priority as to coal for domestic and building heating purposes, as well as other evidence of the right of a particular shipment to be placed within the priority class.

Amendment No. 4 to service order No. 23 is as follows:

It is ordered, That paragraph numbered 7 of the said Service Order No. 23 adopted July 25, 1922, as subsequently amended, be, and it is hereby, further amended and supplemented to read as follows, effective on and after August 30, 1922:

7. That in the supply of cars to mines upon the lines of any coal-loading carrier, such carrier is hereby authorized and directed, to place, furnish, and assign such coal mines with cars suitable for the loading and transportation of coal in succession as may be required for the following classes of purposes, and in following order of classes, namely:

CLASS 1. For such special purposes as may from time to time be specially designated by the commission or its agent therefor. In designating special purposes under this reservation, the commission or its agent will designate the class of relative priority which such special purpose or particular shipment or shipments shall receive.

And subject thereto in order of priority:

CLASS 2. For fuel for railroads and other common carriers, and for bunkering ships and vessels; for public utilities which directly serve the general public under a franchise therefor, with street and interurban railways, electric power and light, gas, water, and sewer works, ice plants which directly serve the public generally with ice, or supply refrigeration for human food stuffs; hospitals; for the manufacture and production of food stuffs and medicines and for the manufacture of containers therefor; for the United States, state, county, or municipal governments, and for their hospitals, schools, and other public institutions—all to the end that the foregoing may be kept supplied with coal for current use for such purposes, but not for storage, exchange, or sale; for bituminous coal consigned to a pool or pools of lake cargo or bunkerage coal at any port upon Lake Erie for transshipment by water to ports above Lake Erie; bituminous or anthracite coal, or coke for household use and for the heating of buildings. It is not intended by this paragraph to give any priority as between the classes of persons and uses mentioned herein.

CLASS 3. Other purposes.

No coal embraced in Classes 1 or 2 shall be subject to reconsignment or diversion except for some purpose in the same class or a superior class in the order of priority herein prescribed.

For the more prompt and effectual administration during the present emergency of the authorizations, directions, and requirements of this paragraph No. 7, the following persons are designated and appointed as agents of the commission with authority to give directions as to car service and to the matters referred to in paragraphs (15) and (16) of section 1 of the interstate commerce act, and referred to in this paragraph No. 7, viz.: John C. Roth, director, and E. H. DeGroot, assistant director; Frank C. Smith, chief inspector of the Bureau of Service of the commission, and S. J. Mayhood, B. S. Robertson, C. C. Semple, W. L. Barry, O. S. Reynolds, H. M. Priest, J. B. Ford, John T. Marchand, J. A. Emmart, W. L. Lloyd, A. R. Layman, Delbert Garman, F. F. Engles, L. P. Green, T. L. Stevens, C. J. Bailey, C. D. Thomas, W. S. Rice, W. D. Anderson, W. B. Moore, J. Patterson, J. F. Stewart, John E. Barr, Wm. J. Kiniry, T. J. Davis, T. F. Sullivan, and the directions so given by them shall be regarded as directions of the commission.

Arrangements for the pooling of lake coal in accordance with the revised plans of the Federal uFel Distribution Committee had practically been completed on Wednesday. The original intention was to have the pool go into effect September 1, but the perfection of details may necessitate delaying actual operations for three or four days. Dumpings of coal at lower lake ports for shipment to upper lake territory last week amounted to 240,000 tons. Reports covering the first two days of the present week indicate total dumpings for this week amounting to 400,000 tons. It is understood that agreements for the shipment of lake coal to the amount of several million tons have been arranged between coal operators in Ohio, Pennsylvania, West Virginia, Kentucky and the lake shippers.

B. S. Robertson of the Interstate Commerce Commission has been designated to represent that commission and the Federal Fuel Distribution Committee at Cleveland, in the passing upon applications from lake shippers for permits for the movement of coal under the new lake program.

With the readjustment of the system of fuel distribution, following the promulgation of the recent amendment to Interstate Commerce Commission, Order No. 23, it is expected that coal under contract or purchase will move generally through its usual channels in accordance with its priority. Where the use for which the coal is to be put is not clearly shown by the order or billing, the state authorities can issue certificates giving this information. This action will automatically determine the classification of the coal under Order No. 23. The co-operation of the Federal Fuel Distribution Committee may be obtained by the state authorities in cases where urgently needed fuel supplies cannot be obtained by the means above outlined.

The Coal Operators' Advisory Committee, headed by C. E. Bockus of the Virginia Coal & Coke Company, which has been assisting the Federal Fuel Dustributor, disbanded on Wednesday. Although it is expected that the various district coal committees will disband after this week, it is probable that the naval and Interstate Commerce Commission representatives will remain at their stations for some time for the purpose of adjusting various details.

A new high record was established on Monday, August 28, when 30,054 cars were loaded for shipment. This exceeded by 7,876 cars the number loaded on Saturday. Loadings on Monday were equivalent to a weekly production of approximately 10,000,000 tons. There was an increase over the preceding day in all districts and the total for Monday exceeded by 6,366 cars the average daily loadings in August last year, when there was no railway strike in effect, while except in the Northwestern and Central Western districts, where there was only a slight difference, loadings on Monday in all districts exceeded by a considerable margin the average daily loadings in the same districts in August last year.

Loadings on Monday were nearly twice the average daily loadings in June, 1922, each district exceeding the daily average for June except the Pocahontas, where loadings on Monday totaled 5,785 cars, while the June average was 5,872 cars.

Coal loadings by districts on Monday were as follows:

District	Cars
Eastern	4,052
Allegheny	8,702
Pocahontas	5,785
Southern	5,228
Northwestern	922
Central Western	3,968
Southwestern	1,397
Total	30,054

Belief that the railroads would be able to handle enough coal to supply current needs this winter was expressed by Secretary Hoover. He pointed out that the best performance of the roads for a week in the past was about 13,500,000 tons, while for the next six weeks they might be called upon to haul 17,000,000 tons a week if they could do so. This total could be cut down, however, by confining distribution to current requirements. One of the difficult problems arises from the accumulation of some 20,000 to 25,000 loaded cars on the Southern coal carrying roads while somewhere between the non-union coal fields and the Northwest there is approximately 600,000 tons of coal consigned to the lake region under priority orders. It is hoped to move 1,200,000 tons a week to the lake ports before the close of navigation but it is regarded as certain that all-rail shipments to the Northwest will be necessary during the winter.

General News Department

Three Men Burned to Death was the tragic result of a highway crossing disaster at Rockwood, Mich., one day last week.

Electrification of Montreal Harbor Railway Proceeding Rapidly

Electrification of the Harbor Railway Terminals, Montreal, with a total trackage of 58 miles, is proceeding, and it is expected that by the end of September 42 miles will have been electrified. The remaining 16 miles will probably be completed next season, according to a statement issued by M. P. Fennell, manager of the Montreal Harbor Commission. Electric locomotives of a type especially suited for harbor work will be purchased by the Commission.

International Commerce Chamber to Meet in Rome

The second general meeting of the International Chamber of Commerce will be held in Rome, Italy, from March 18 to 24, 1923. Present indications are that from two to three hundred American business men will be in attendance. Opportunity will be afforded to Americans in attendance to take numerous side trips to study economic conditions in Mediterranean countries, the Near East and Western Europe. Further details can be secured from L. C. Zapf, secretary, American Section, International Chamber of Commerce, Mills building, Washington, D. C.

New York Railroad Club Meeting

H. C. Pearce, director of purchases and stores of the Chesapeake & Ohio, will present a paper at the meeting of the New York Railroad Club on Friday evening, September 15, on "The Real Functions of the Department of Purchases and Stores." He will discuss the purpose, scope and organization of the purchases and stores department, or the "service of supply" as it is frequently called. The necessity of conserving the material resources will be touched upon, with suggestions as to how it may be accomplished and at the same time improve the promptness and efficiency of the delivery of material to the user.

Transportation Day at Canadian National Exhibition

Thursday, September 7, has been set aside as Transportation Day at the Canadian National Exhibition, which opened at Toronto, Ont., on Saturday,, August 26. The exhibition has a number of transportation exhibits and a special program will be arranged for railway men on September 7.

The Canadian National Railways is exhibiting four different types of self-propelled motor coaches and is directing special attention to the importance of these coaches in improving branch line service. The Canadian National Railways is also exhibiting a complete transcontinental train of steel equipment, consisting of a Pacific type locomotive, baggage car, colonist car, first-class coach, tourist sleeper, dining car, first-class sleeper, compartment-observation car and a mountain observation car.

Steel Treaters and Drop Forgers Will Meet in Detroit

Final arrangements are being made for the fourth international steel exposition and conventions of the American Society for Steel Treating and the American Drop Forging Institute to be held in the General Motors building, Detroit, Mich., Oct. 2-7.

The exposition will be the largest ever held as practically all of the floor space has been sold and many exhibitors who desired to be present cannot be accommodated. There will be quite a number of exhibitors not present at previous shows due to the fact that the Drop Forging Institute is holding its annual convention simultaneously and in the same building with the American Society for Steel Treating.

The General Motors building is especially adapted for exhibition purposes. In the large exhibition hall, there are 30,000 sq. ft., while the two wings on the same floor leading to the exhibition hall have 20,000 sq. ft. of additional display space. Arrangements have been made so that in one section of the hall gas furnaces will be in operation, while electrical furnaces and other equipment requiring power will be displayed throughout the hall. Practically all of the exhibits will be in operation.

At the three previous expositions held in Chicago, Philadelphia and Indianapolis, the attendance has been in excess of 10,000, and it is expected that because of the great interest in Detroit as a heat treating center as well as a market for steel products, the attendance will be in excess of 15,000.

Proposed Penalties for Obstructing Interstate Commerce

A bill making it a felony under the federal laws for any person or persons willfully, by physical force, or intimidation by threats of physical force, to obstruct or retard the orderly conduct or movement of interstate or foreign commerce or the make-up or disposition of locomotives and cars, was introduced in the Senate on August 23 by Senator Sterling of South Dakota. The bill would also impose penalties for willful attempts to destroy, injure or impair any of the tracks, switches, roundhouses or terminal facilities of any railroad used in interstate commerce with the intent to interfere with commerce, and make persons chargeable with such interferences chargeable with murder in the event that lives are lost as a result.

Passengers Relieved by Wig-Wag Signals

Southbound passenger train No. 3105 of the New York, New Haven & Hartford was derailed on the afternoon of August 24 about four miles north of Newport, R. I., and three of the twenty passengers on the train were slightly injured. The road at this point runs along the shore of Narrangansett Bay and the first relief that was secured for the train came from a vessel of the United States Navy, which sent a crew of 30 men. Naval radio telegrapher F. C. Burst, had just alighted from the train, at the last preceding station; and, seeing the trouble he ran to the scene of the accident. Mounting the roof of one of the cars he attracted the attention of the men out in the bay by wig-wag signals. Lieutenant Matthews, who came with the relief crew, took all of the passengers to Newport on the Navy launch, before the doctors and ambulances had arrived. The locomotive of the train did not leave the rails; and the tender and the three cars were not much damaged.

Labor Opposes Kellogg Alien-Protection Bill

Representatives of organized labor at hearings before a Senate committee on August 23 and 24 vigorously opposed the enactment of the Kellogg bill authorizing the federal government to punish offenses against aliens in violation of treaty rights, which was urged by the President in his address to Congress on August 18 in order to give the government power to deal with such cases as the Herrin massacre in the event of failure of state and local authorities to act. Edgar Wallace, legislative agent of the American Federation of Labor; N. P. Alifas, of the International Association of Machinists, and A. S. Lovell, vice-president of the Brotherhood of Locomotive Engineers, objected to the bill on the ground that its purpose was to "put the federal government in the business of strike-breaking on the pretense that the rights of aliens may be affected." Mr. Lovell said that thousands of aliens are killed each year through railroad accidents and that the bill would make possible huge bills for compensation against the federal government.

A Billion and a Quarter

James C. Rogers, the veteran general paymaster of the Pennsylvania Railroad, who, as announced in the *Railway Age* of July 8, page 91, was retired on pension on July 1, had been connected with the general offices of the Pennsylvania and of the Philadelphia, Wilmington & Baltimore since November 1, 1869. Until the merger of the last named road with the Pennsylvania, he was employed mainly in the treasurer's department, and he entered the same department in the larger company. In 1905, he was assigned to the work of introducing the cash system of payment of wages on the Pennsylvania lines east of Pittsburgh and Erie. This work occupied his time for five years, involving as it did the training of many paymasters and clerks and the supervision of the construction of pay-cars. In January, 1919, under the United States Railroad Administration, the payment of wages by checks was resumed. During the ten years up to that time, there was paid out from the pay-cars one billion two hundred and fifty-two millions of dollars. The losses resulting from errors in payment from the pay-cars during this ten-year period averaged $558.27 a year, a showing which is regarded as attesting the high quality of the work of the paymaster's department, as carried on under Mr. Rogers' direction. This is equal to one dollar in every $224,000 paid out, or less than one two-thousandth of one per cent. Mr. Rogers has been general paymaster of the Pennsylvania System since 1920. He is also president of the Veteran Employees' Association of the general offices at Philadelphia, and he will continue in this position.

Earnings for July

Incomplete reports so far filed with the Interstate Commerce Commission show that 104 out of 200 Class I railroads had a net operating income in July of $46,263,000, compared with $43,938,000 for those same roads in July last year. Complete reports for all the Class I roads are expected to be available in about a week.

Operating revenues for the 104 roads totaled $272,628,000, a decrease of 2.6 per cent under those for the same month last year, while their operating expenses amounted to $207,087,000, a reduction of 5.2 per cent compared with those for the same roads during July, 1921. The 104 roads represent a mileage of 141,380 miles.

Incomplete reports for 57 railroads in the Eastern district, representing 43,430 miles, show that those roads had a net operating income in July of $15,970,000, compared with $20,510,500 for the same carriers last year. Their operating revenues totaled $132,116,000, a reduction of 5.3 per cent compared with July, 1921, while their operating expenses amounted to $106,666,000, a decrease of 4 per cent under those for the same month in 1921.

Sixteen railroads in the southern district with a mileage of 18,780 miles had a net operating income of $4,435,800, compared with $3,459,000 for the same roads in July last year. The operating revenues for those southern roads totaled $30,604,000, an increase of 2/10 of 1 per cent over July last year, while their operating expenses amounted to $24,792,000, a reduction of 3.2 per cent compared with the operating expenses of the same carriers in July one year ago.

Reports for 31 railroads in the western district, representing 79,169 miles, gave their net operating income as $25,856,700, compared with $19,969,000 in July last year. Their operating revenues totaled $109,907,000, which was practically the same as that for July last year, while their operating expenses were $75,628,000, or a reduction of 7.5 per cent under the same month one year ago.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION.—F. M. Nellis, 165 Broadway, New York City. Next convention, May 1-4, 1923, Denver, Colo. Exhibit by Air Brake Appliance Association.

AIR BRAKE APPLIANCE ASSOCIATION.—J. F. Gettrust, The Ashton Valve Company, 318 W. Washington St., Chicago. Meeting with Air Brake Association.

AMERICAN ASSOCIATION OF DEMURRAGE OFFICERS.—F. A. Pontious, Supervisor of Demurrage and Storage, C. & N. W. Ry., Chicago.

AMERICAN ASSOCIATION OF DINING CAR SUPERINTENDENTS.—L. A. Stone, C. & E. I. Ry., Chicago. Annual meeting, Oct. 17-20, San Francisco, Cal.

AMERICAN ASSOCIATION OF ENGINEERS.—C. E. Drayer, 63 E. Adams St., Chicago.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 332 So. Michigan Ave., Chicago.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York. Annual meeting, October 10 and 11, Seelbach Hotel, Louisville, Ky.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—J. Rothschild, Room 400 Union Station, St. Louis, Mo.

AMERICAN ELECTRIC RAILWAY ASSOCIATION.—J. W. Welsh, 8 W. 40th St., New York.

AMERICAN RAILROAD MASTER TINNERS', COPPERSMITHS' AND PIPE FITTERS' ASSOCIATION.—C. Borcherdt, 202 North Hamlin Ave., Chicago, Ill.

AMERICAN RAILWAY ASSOCIATION.—J. E. Fairbanks, General Secretary, 75 Church St., New York, N. Y. Annual meeting, November, 1922.

Division I.—Operating. J. C. Caviston, 30 Vesey St., New York, N. Y.

Freight Station Section (Including former activities of American Association of Freight Agents). R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago, Ill.

Medical and Surgical Section. J. C. Caviston, 30 Vesey St., New York.

Protective Section (including former activities of the American Railway Chief Special Agents and Chiefs of Police Association). J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section. J. C. Caviston, 30 Vesey St., New York.

Telegraph and Telephone Section (including former activities of the Association of Railway Telegraph Superintendents). W. A. Fairbanks, 30 Vesey St., New York, N. Y. Annual meeting, September 19-21, 1922, The Antlers, Colorado Springs, Colo.

Division II—Transportation (including former activities of the Association of Transportation and Car Accounting Officers). G. W. Covert, 431 South Dearborn St., Chicago, Ill.

Division III—Traffic, J. Gottschalk, 143 Liberty St., New York.

Division IV—Engineering, E. H. Fritch, 431 South Dearborn St., Chicago, Ill. Exhibit by National Railway Appliances Association.

Construction and Maintenance Section. E. H. Fritch.

Electrical Section. E. H. Fritch.

Signal Section (including former activities of the Railway Signal Association). H. S. Balliet, 30 Vesey St., New York, N. Y. Next meeting, November 21 and 22, Hotel McAlpin, New York.

Division V—Mechanical (including former activities of the Master Car Builders' Association and the American Railway Master Mechanics' Association). V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Exhibit by Railway Supply Manufacturers' Association.

Equipment Painting Section (including former activities of the Master Car and Locomotive Painters' Association). V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Next meeting, which was scheduled to be held Sept. 5-7, has been postponed.

Division VI—Purchases and Stores (including former activities of the Railway Storekeepers' Association). W. J. Farrell, 30 Vesey St., New York, N. Y.

Division VII—Freight Claims (including former activities of the Freight Claim Association). Lewis Pilcher, 431 South Dearborn St., Chicago, Ill.

Car Service Division—C. A. Buch, 718 18th St., N. W., Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W. Ry., 319 N. Waller Ave., Chicago. Next convention October 17-19, 1922, Cincinnati, Ohio. Exhibit by Bridge and Building Supply Men's Association.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—A. Leckie, Industrial Agent Kansas City Southern Ry., Kansas City, Mo.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—(Works in co-operation with the American Railway Association, Division IV.) E. H. Fritch, 431 South Dearborn St., Chicago. Exhibit by National Railway Appliance Association.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—(See American Railway Association, Division V.)

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—R. D. Fletcher, 1145 East Marquette Road, Chicago. Exhibit by Supply Association of the American Railway Tool Foremen's Association.

AMERICAN SHORT LINE RAILWAY ASSOCIATION.—T. F. Whittelsey, Union Trust Bldg., Washington, D. C.

AMERICAN SOCIETY FOR STEEL TREATING.—W. H. Eiseman, 1600 Prospect Ave., Cleveland, Ohio. Annual convention, Oct. 2-7, 1922, General Motors Building, Detroit, Mich.

AMERICAN SOCIETY FOR TESTING MATERIALS.—C. L. Warwick, University of Pennsylvania, Philadelphia, Pa.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—Prof. J. H. Dunlap, University of Iowa, Iowa City, Ia. Regular meeting 1st and 3d Wednesdays in month, except July and August, 33 W. 39th St., New York. Fall meeting, October 4-9, Palace Hotel, San Francisco, Cal.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 39th St., New York.

Railroad Division—A. F. Stuebing, Manager Editor, Railway Mechanical Engineer, Woolworth Bldg., New York.

AMERICAN TRAIN DISPATCHERS' ASSOCIATION.—C. L. Darling, 1310-1311 Mallers Bldg., Chicago, Ill. Next convention, June 18, 1923, Chicago.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—S. D. Cooper, A. T. & S. Fe R. R., Topeka, Kan. Next meeting, January 23, 1923, New Orleans, La.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—H. D. Morris, Northern Pacific R. R., St. Paul, Minn.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Sta., Chicago. Exhibit by Railway Electrical Supply Manufacturers' Association.

ASSOCIATION OF RAILWAY EXECUTIVES.—Thomas De Witt Cuyler (chairman), 61 Broadway, New York, N. Y.

ASSOCIATION OF RAILWAY SUPPLY MEN.—A. W. Clokey, 1658 McCormick Bldg., Chicago. Meeting with International Railway General Foremen's Association.

ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.—(See American Railway Association, Division I.)

ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.—(See American Railway Association, Division II.)

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—D. J. Higgins, American Valve & Meter Company, 332 S. Michigan Ave., Chicago. Meeting with convention of American Railway Bridge and Building Ass'n.

CANADIAN RAILWAY CLUB.—W. A. Booth, 53 Rushbrook St., Montreal, Que.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Aaron Kline, 626 North Pine Ave., Chicago. Regular meetings, 2d Monday in month, except June, July and August, Great Northern Hotel, Chicago.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—Thomas B. Koeneke, 604 Federal Reserve Bank Bldg., St. Louis, Mo. Meetings, first Tuesday in month at the American Hotel Annex, St. Louis.

CENTRAL RAILWAY CLUB.—Harry D. Vought, 26 Cortlandt St., New York, September meeting has been postponed.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S ASSOCIATION.—W. P. Elliott, Terminal Railroad Association of St. Louis, East St. Louis, Ill. Annual convention, November 6-8, Hotel Sherman, Chicago.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S SUPPLY MEN'S ASSOCIATION.—D. B. Wright, 34th St. and Artesian Ave., Chicago, Ill. Meeting with Chief Interchange Car Inspectors' and Car Foremen's Association.

CINCINNATI RAILROAD CLUB.—W. C. Cooder, Union Central Bldg., Cincinnati, Ohio. Meetings, 2d Tuesday in February, May, September and November.

EASTERN RAILROAD ASSOCIATION.—E. N. Bessling, 614 F St., N. W., Washington. D. C.

FREIGHT CLAIM ASSOCIATION.—(See American Railway Associations, Division VII.)

GENERAL SUPERINTENDENTS' ASSOCIATION OF CHICAGO.—C. H. Treichel, Grand Central Station. Chicago. Regular meetings, Wednesday, preceding 3d Friday in month, Room 1414, Manhattan Bldg., Chicago.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Exhibit by International Railroad Master Blacksmiths' Supply Men's Association.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' SUPPLY MEN'S ASSOCIATION.—George P. White, 747 Railway Exchange, Chicago. Meeting with International Railroad Master Blacksmiths' Association.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—J. G. Crawford, 702 E. 51st St., Chicago. Exhibit by International Railway Supply Men's Association.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabash Ave., Winona, Minn. Next convention, September 5-8, Hotel Sherman. Chicago.

INTERNATIONAL RAILWAY SUPPLY MEN'S ASSOCIATION.—C. W. Sullivan, Garlock Packing Co., 326 W. Madison St., Chicago. Meeting with International Railway Fuel Association.

MASTER BOILER MAKERS' ASSOCIATION.—Harry D. Vought, 26 Cortlandt St., New York.

MASTER CAR AND LOCOMOTIVE PAINTERS' ASSOCIATION.—(See A. R. A., Division V.)

MASTERS' CAR BUILDERS' ASSOCIATION.—(See A. R. A., Division V.)

NATIONAL ASSOCIATION OF RAILWAY TIE PRODUCERS.—Warren C. Nixon, Western Tie & Timber Co., 905 Syndicate Trust Bldg., St. Louis, Mo.

NATIONAL ASSOCIATION OF RAILWAY AND UTILITIES COMMISSIONERS.—James B. Walker, 49 Lafayette St., New York. Next convention, September 26, 1922, Detroit, Mich.

NATIONAL FOREIGN TRADE COUNCIL.—O. K. Davis, 1 Hanover Square, New York.

NATIONAL RAILWAY APPLIANCE ASSOCIATION.—C. W. Kelly. People's Gas Bldg., Chicago. Annual exhibition at convention of American Railway Engineering Association.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, 2d Tuesday in month, excepting June, July, August and September.

NEW YORK RAILROAD CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Regular meetings, 3d Friday in month, except June, July and August, at 29 W. 39th St., New York.

PACIFIC RAILWAY CLUB.—W. S. Wollner, 64 Pine St., San Francisco, Cal. Regular meetings, 2d Thursday in month, alternately in San Francisco and Oakland.

RAILWAY ACCOUNTING OFFICERS' ASSOCIATION.—E. R. Woodson, 1116 Woodward Building, Washington, D. C.

RAILWAY BUSINESS ASSOCIATION.—Frank W. Noxon, 600 Liberty Bldg., Broad and Chestnut Sts., Philadelphia, Pa. Annual dinner, February 1, Waldorf-Astoria, New York.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 515 Grandview Ave., Pittsburgh, Pa. Regular meetings, 4th Thursday in month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY DEVELOPMENT ASSOCIATION.—(See Am. Ry. Development Assn.)

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—J. Scribner, General Electrical Co., Chicago. Annual meeting with Association of Railway Electrical Engineers.

RAILWAY EQUIPMENT MANUFACTURERS' ASSOCIATION.—R. J. Himmelright, 17 East 42nd St., New York. Meeting with Traveling Engineers' Association.

RAILWAY FIRE PROTECTION ASSOCIATION.—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md.

RAILWAY REAL ESTATE ASSOCIATION.—R. H. Morrison, C. & O. Ry., Richmond, Va. Next meeting October 10-13, 1922, Pittsburgh, Pa.

RAILWAY SIGNAL ASSOCIATION.—(See A. R. A. Division IV, Signal Section.)

RAILWAY STOREKEEPERS' ASSOCIATION.—(See A. R. A., Division VI.)

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1841 Oliver Bldg., Pittsburgh, Pa. Meeting with A. R. A., Division V.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, 30 Church St., New York.

RAILWAY TREASURY OFFICERS' ASSOCIATION.—L. W. Cox, Commercial Trust Bldg., Philadelphia, Pa. Annual meeting, October 19 and 20, Asheville, N. C.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—P. J. McAndrews, C. & N. W. Ry., Sterling, Ill. Annual convention, September 19-21, 1922, Hotel Statler, Cleveland, Ohio. Exhibit by Track Supply Association.

ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Union Station, St. Louis, Mo. Regular meetings, 2d Friday in month, except June, July and August.

SIGNAL APPLIANCE ASSOCIATION.—F. W. Edmunds, Sunbeam Electric Manufacturing Company, New York City. Meeting with American Railway Association, Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. J. Merrill, P. O. Box 1205, Atlanta, Ga. Regular meetings, 3d Thursday in January, March, May, July, September and November, Piedmont Hotel, Atlanta.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. L. Carrier, Car Serv. Agt., Tenn. Cent. Ry., 319 Seventh Ave., North Nashville, Tenn. Next meeting, October 19, St. Augustine, Fla.

SUPPLY ASSOCIATION OF AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—H. S. White, 9 N. Jefferson St., Chicago.

TRACK SUPPLY ASSOCIATION.—W. C. Kidd, Ramapo Iron Works, Hilburn, N. Y. Meets with Roadmasters' and Maintenance of Way Association.

TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, 1177 East 98th St., Cleveland, Ohio. Annual convention, October 31-November 3, Hotel Sherman, Chicago. Exhibit by Railway Equipment Manufacturers' Association.

WESTERN RAILWAY CLUB.—Bruce V. Crandall, 14 E. Jackson Boulevard, Chicago. Regular meetings, 3d Monday each month except June, July and August.

Traffic News

Railroads during the first six months of this year handled 170,209,000,000 net tons of freight, as compared with 163,587,000,000 in the first six months of 1921, according to the monthly bulletin of operating statistics published by the Interstate Commerce Commission. For June the number of net ton miles was 29,049,000,000 as compared with 28,146,000,000 last year. The average percentage of unserviceable locomotives for the first six months was 23.4 and of cars 13.8. The average car miles per day was 22.7 as compared with 21.5 last year and the net tons per loaded car 26.4 as compared with 28, and the net ton miles per car a day 390 as compared with 374. The net ton miles per mile of road per day averaged 4,027 as compared with 3,880.

Coal Production

Shipments from mines opening under the Cleveland wage agreement have already materially increased production of bituminous coal, the Geological Survey announced in its bulletin of August 26. An output of at least 6,000,000 tons for the week of August 21-26 was already assured by the reports for Monday, Tuesday and Wednesday, and additional tonnage from other districts that are known to have signed the agreement may raise the total to 6,250,000 tons. Production of anthracite, however, remained practically zero.

The sharp increase in output is indicated by the statement of cars loaded daily. On Monday, mines in Eastern Ohio and parts of Central Pennsylvania were shipping coal, and the loadings for that day were 19,043 cars, an increase of 3,340 cars over the preceding Monday. Loadings on Tuesday declined somewhat but on Wednesday and Thursday increased again, largely exceeding those of the week before. These increases were due to first shipments from Illinois and other western districts which carried the total up to 18,748 cars on Thursday. On Friday the loading was 21,866 cars. The increase came almost exclusively from mines formerly closed by the strike. In the Middle and Southern Appalachians, transportation difficulties still limited output and shipments were but little larger.

Interchangeable Mileage Ticket Investigation

The Interstate Commerce Commission has announced hearings, to be begun at Washington on September 26, before Commissioner Meyer, with a view to the issuance of such orders as may be necessary to carry out the provisions of the interchangeable mileage ticket law, approved by the President on August 18. The principal section of the law reads:

"The commission is directed to require, after notice and hearing, each carrier by rail, subject to the Interstate Commerce Act, to issue at such offices as may be prescribed by the commission interchangeable mileage or scrip coupon tickets at just and reasonable rates, good for passenger carriage upon the passenger trains of all carriers by rail subject to this act. The commission may in its discretion exempt from the provisions of this amendatory Act either in whole or in part any carrier where the particular circumstances shown to the commission shall justify such exemption to be made. Such tickets may be required to be issued in such denominations as the commission may prescribe. Before making any order requiring the issuance of any such tickets the commission shall make and publish such reasonable rules and regulations for their issuance and use as in its judgment the public interest demands; and especially it shall prescribe whether such tickets are transferrable or non-transferrable, and if the latter, what identification may be required; and especially, also to what baggage privileges the lawful holders of such tickets are entitled."

Willful refusal to issue or accept the tickets is subject to $1,000 fine. At the hearing the carriers' proposals will be heard first, to be followed by cross-examination and then the direct testimony of commercial and other organizations and individuals and cross-examination thereon. Each carrier seeking exemption must file with the commission a written statement to that effect on or before September 15.

Commission and Court News

Interstate Commerce Commission

The Interstate Commerce Commission has rendered its decision as a result of its investigation of the rates on bunker coal in which it holds that the maintenance of lower rates on coal for delivery at ports to vessels whether as cargo or for bunker purposes is not in violation of the fourth section of the interstate commerce act or otherwise unlawful.

Court News

Power of I. C .C. to Award Reparation for Overcharges

On a hearing before the Interstate Commerce Commission of a petition for reparation for unreasonable rates "heretofore and hereafter charged to petitioners," evidence having been taken without objection as to shipments both before and after filing of the petition, the Circuit Court of Appeals, Third Circuit, holds the commission had power to award reparation for overcharges after as well as before filing petition.—Lehigh Valley v. G. B. Markle Co., 279 Fed. 261.

Insufficient Evidence of Unusual Jolt of Train

In an action by a female passenger for injuries alleged to have been caused by being thrown against the side of a seat by an unusual movement of the train, the Missouri Supreme Court holds that her characterization of the jar as "an awful jolt and jar," and "the worst jar I ever witnessed on the train in my life" was of slight, if any, assistance in determining the real character of the jar; and her evidence that the jolt "threw" her against the seat was insufficient to show an unusual movement, in the absence of evidence that anything else in the car was disarranged or that any other passenger had suffered inconvenience.—Elliott v. Chicago, M. & St. P. (Mo.), 236 S. W. 17.

Failure to Give Notice of Claim for Loss Bars Recovery—Goods Stolen

The Circuit Court of Appeals, First Circuit, holds that where the consignee has failed to give the notice of claim required by the bill of lading (Act of March 4, 1915) claim for recovery is barred except for negligent delay in delivering the property, or negligence while loading or unloading it or in transit, resulting in the consignee's loss.

The fact of nondelivery does not suffice to show neglect where it appears that the goods were stolen and the circumstances attending the theft do not authorize an inference of lack of reasonable precaution. The party asserting negligence must prove it.—Gillette Safety Razor Co. v. Davis, 278 Fed. 864.

Burden of Proof in Fire-Setting Cases

In an action for damages for the burning of plaintiffs' seed-house by sparks the North Carolina court held the defendant entitled to a new trial for error in imposing on the defendant the burden of rebutting the prima facie case by a preponderance of the evidence. The court said: "When the plaintiffs proved that the property had been destroyed by fire escaping from the defendant's locomotive, they made a prima facie case of negligence for the consideration of the jury; or, as Mr. Justice Pitney says, such proof furnished circumstantial evidence of negligence; but it did not impose upon the defendant the burden of rebutting the prima facie case by the preponderance of the evidence.—Sweeney v. Erving, 228 U. S. 233. . . . Standing alone, the prima facie case warranted but did not compel the inference of negligence; it furnished evidence to be weighed but not necessarily to be accepted; it made a case to be decided by the jury but did not forestall the verdict."—Bertie Cotton Oil Co. v. Atlantic Coast Line (N. Car.), 110 S. E. 660.

Foreign Railway News

British Concern Gets Order for 21 Locomotives

The British firm of Sir W. G. Armstrong, Whitworth & Company has, according to The Engineer (London), received from the Bengal North Western Railway an order for 21 locomotives.

English Coal Strike's Cost to Railway Employees

LONDON.

According to the financial report of the National Union of Railwaymen, the miners' strike of last year cost the railwaymen's organization nearly £750,000 ($3,645,000 at the normal rate of exchange) in unemployment payments.

Two Swiss Railways Electrified Throughout

The St. Gotthard line in Switzerland is now completely electrified for both freight and passenger service. The line extends from Lucerne to Chiasso on the Italian border, a distance of about 180 miles. Grades of 2.5 per cent are common and there are many tunnels, the longest of which is 9¼ miles. Completion of the electric operation of the Rhaetian Railways in Switzerland was celebrated in May of this year.

Indian Railways to Buy Locomotives and Cars

The East Indian Railway, according to Modern Transport (London), will during the fiscal year 1923-24 add 37 locomotives to its supply of motive power and contemplates similar additions annually for the next few years. From 2,000 to 3,000 goods wagons will be acquired annually during the next five years and 136 passenger cars will be purchased before March, 1923. The road is also doing a considerable amount of double tracking.

The Bengal-Napur Railway will spend 1,567,000 rupees for passenger cars and 11,630,000 rupees for goods wagons (one rupee equals 32.4 cents at par).

Railway Consolidation Making Rapid Progress in Britain

The amalgamation of all the railways of Great Britain into four non-competitive companies is proceeding rapidly. The most recent announcement of this nature was a plan for the consolidation of the six companies making up the Eastern group. These companies are the North Eastern, the Great Central, the Great Eastern, the Great Northern, the North British and the Great North of Scotland. In the case of the amalgamations, as with those previously announced, consolidation is effected, not by lease or acquisition of stock, but by the exchange of stock of the old companies for stock of the amalgamated company—an exchange effected generally on the basis of earning power of the stocks rather than on their par values.

Australian Road Uses Motor Cars

LONDON.

The Victorian Railways, Australia, have adopted the rail motor car to handle passenger traffic on short spur lines and over other sections where it is uneconomical to provide a service of steam trains, says the Times (London) Trade Supplement. Experiments in the past have been made with steam and gasoline cars but for various reasons these have failed to give satisfaction. In the new system an ordinary motor-truck chassis is used as the power unit, the steering gear being removed and standard railway tires fitted to the wheels. The car, which has been designed to provide the maximum of floor space, has a seating capacity for 43 persons and all unnecessary tare weight has been eliminated. It is open at the sides but is provided with blinds which can be lowered for protection against inclement weather. The seats all face to the front and are of the usual tramcar type, and while they afford little lodgement for dust, provide ample comfort for short journeys. Hand luggage and parcels can be accommodated under the seats and the doors have been arranged near the front end so that the driver may be able conveniently to collect fares

and issue tickets to passengers. A trailer built on similar lightweight lines has also been constructed and will be attached to the rail motor-car as traffic requirements warrant. Both the motor car and the trailer are lighted by electricity. The maximum speed will be from 25 to 30 m. p. h., but the average speed will be considerably less, depending on the frequency of stops.

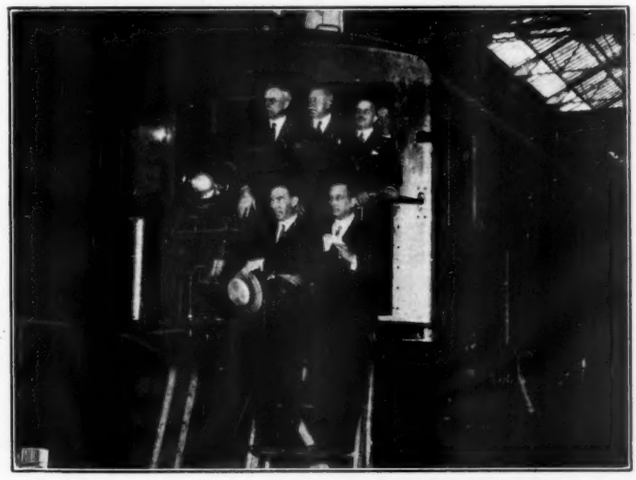
Improvements Undertaken by Cuba Northern

Improvements are being carried out by the Cuba Northern at Moron, Cuba, to include the construction of a locomotive repair shop, car and coach shop, transfer table, smith shop and foundry, power house and saw mill. A contract for the construction and all necessary tools has been given to the Baldwin Locomotive Works. All the buildings will be of steel frame with galvanized sides and the improvements will cost about $675,000. The shops are to be ready for operation by November 1, 1922. The Cuba Northern has given a contract also to the Frederick Snare Corporation for erecting at Port Tarafa, one of the company's terminals, two sugar warehouses of the same type of construction as the buildings at Moron.

Spanish Railway Officials Here to Study Electric Traction

Senor Don Jose Moreno Ossorio, general manager of the Norte Railway in Spain, and several other Spanish railway experts who are working out plans for the proposed electrification of the Norte Railway are in America on a tour of inspection. The other members of the inspection party are Don Mario Viani Caballero, chief engineer of the motive power department, Norte Railway; Prof. Don Jose A. Perez Del Pulgar, professor of electrical engineering, Instituto Catolico de Artes e Industrias; and R. F. Hamilton, consulting-engineer of the Sociedad Espanola de Construccion Naval, which represents the Westinghouse Electric International Company in Spain.

The initial electrification on the Norte system, which is one of the largest in Spain, will include about 40 miles of line running



Spanish Railroad Officials at Westinghouse Plant

from Ujo through the mountainous Pajares section in the north. Three thousand volts direct current will be used in this section, and water power will be purchased from the Electra de Viesco Company in Asturias. More extensive electrification is planned for the future on the Madrid-Venta De Banos section of the railroad.

The accompanying photograph was taken in the plant of the Westinghouse Electric and Manufacturing Company at East Pittsburgh, Pa. The members of the party are: left to right, rear row—N. W. Storer, general engineer, Westinghouse Electric & Manufacturing Company; Don Jose Moreno Ossorio, general manager, Norte Railway; Don Mario Viani Caballero, chief engineer, Norte Railway; left to right front row—R. F. Hamilton, Sociedad Espanola de Construccion Naval and Prof. Don A. Perez Del Pulgar.

Equipment and Supplies

Locomotives

THE MISSOURI PACIFIC has ordered 25 Mikado type locomotives from the American Locomotive Company.

THE MISSOURI, KANSAS & TEXAS has ordered 10, eight-wheel type switching locomotives from the American Locomotive Company.

THE LONG ISLAND RAILROAD is inquiring for six locomotives of a type suitable for heavy passenger service in the summer and for freight service in the winter.

Freight Cars

THE NEW YORK, NEW HAVEN & HARTFORD is inquiring for 6 caboose cars.

THE BALTIMORE & OHIO is inquiring for 1,000 steel hopper cars of 55 tons' capacity.

THE BELT RAILWAY OF CHICAGO is inquiring for 150 hopper cars of 55 tons' capacity.

THE PITTSBURGH & WEST VIRGINIA is inquiring for 6 steel-underframe caboose cars.

THE ST. LOUIS-SAN FRANCISCO is inquiring for 500 hopper car bodies of 50 tons' capacity.

THE CINCINNATI, INDIANAPOLIS & WESTERN is inquiring for from 200 to 300 high side gondola cars of 50 tons capacity.

THE AMERICAN OIL COMPANY, Baltimore, Md., has ordered 5 tank cars of 10,000 gal. capacity from the Standard Tank Car Company.

THE PHILLIPS PETROLEUM COMPANY, Bartlesville, Okla., has ordered 75 insulated tank cars of 8,000 gal. capacity from the Standard Tank Car Company.

THE CHILE EXPLORATION COMPANY, New York City, is inquiring for from 20 to 25 hopper bottom dumping ore cars for export. These cars are to have a capacity of 50 tons.

THE PACIFIC ELECTRIC, reported in the *Railway Age* of August 12 as inquiring for 200 dump cars of 50 tons' capacity, has ordered 200 Naticnal dump cars from the American Car & Foundry Co.

THE TENNESSEE, ALABAMA & GEORGIA, reported in the *Railway Age* of August 12, as inquiring for 20 box cars and 20 gondola cars is now asking for 25 box cars of 40 tons' capacity and 25 gondola cars of 50 tons' capacity.

THE JACOB DOLD PACKING COMPANY, Buffalo, N. Y., reported in the *Railway Age* of April 8 as inquiring for from 50 to 100 refrigerator cars, has renewed its inquiry for from 50 to 100 beef refrigerator cars with steel underframes. These cars are to have a capacity of 80,000 lb.

Passenger Cars

THE RICHMOND, FREDERICKSBURG & POTOMAC is asking for prices on six cars for passenger service.

Iron and Steel

THE GRAND TRUNK has contracted with the American Bridge Company for 200 tons of fabricated steel for bridges in Michigan.

Machinery and Tools

THE MISSOURI PACIFIC has ordered 1 2,500-lb. single frame steam hammer from the Niles-Bement-Pond Company.

THE LOS ANGELES RAILWAY CORPORATION has ordered a No. 1 car wheel lathe from the Niles-Bement-Pond Company.

Supply Trade News

The Compagnie des Appareils P. et M., has been organized with headquarters at No. 7, Rue Scribe, Paris, as the French agency for the selling of the rail anti-creepers of the P. & M. Company with which company it is associated.

H. A. Matthews, announcement of whose appointment as a vice-president of the **U. S. Light & Heat Corporation**, Niagara Falls, N. Y., was made in the *Railway Age* of August 26, will continue to have charge of sales in the railway division, his full title now being vice-president, sales, railway division.

Fay, Spofford & Thorndike, consulting engineers, 200 Devonshire Street, Boston, Mass., have admitted to partnership John Ayer, Bion A. Bowman, Carroll A. Farwell, Ralph W. Horne, Ralph T. Jackson, George L. Mirick, Barzillai A. Rich, and Warren D. Trask, who have been long associated with the above firm.

Trade Publications

INSULATING COMPOUNDS.—A small 16-page booklet has just been issued by the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., which describes the insulating and soldering compounds manufactured by that company. The materials treated in the publication are baking varnishes, air-drying varnishes, insulating compounds, finishing materials, insulating glue, soldering flux, and lubricating oil.

TWENTY-FIVE THOUSAND is the number of men, according to a Montreal dispatch, who have gone from that region to western Canada to work in the harvesting of Canada's great wheat crop. Of this number about 18,000 went over the Canadian Pacific and the balance by the Canadian National and Grand Trunk Railways. It is said that probably 80 per cent of those who go west for harvesting return to eastern Canada before the middle of the winter.

Photo by Underwood & Underwood

A Baldwin Locomotive for the Argentine State Railways

Railway Construction

ATCHISON, TOPEKA & SANTA FE.—This company has awarded the contract to the Truscon Steel Company, Chicago, for the sash for the new boiler and tender shops at Albuquerque, N. M.

ATCHISON, TOPEKA & SANTA FE.—This company, which was reported in the *Railway Age* of August 5 as receiving bids for a new boiler shop at Albuquerque, New Mexico, has awarded the contract to C. A. Fellows & Co., Los Angeles, Cal.

BALTIMORE & OHIO.—This company has awarded a contract to the Vang Construction Company, Cumberland, Md., for the erection of a 65-ft. through plate girder span highway bridge over its tracks at Collingdale, Pa. A contract has been awarded to the Seaboard Construction Company, Philadelphia, Pa., for the erection of a bridge over Elk creek, Clarksburg, W. Va. The structure will consist of two 60-ft. deck plate girder spans with timber trestle approaches. To the same company has been awarded a contract for a 78-ft. through plate girder highway bridge at West Alexander, Pa.

CHICAGO, BURLINGTON & QUINCY.—This company, which was reported in the *Railway Age* of April 22 as preparing plans for the construction of shop facilities at Denver, Colo., has awarded a contract for this work to the Stearns-Rogers Company, Denver.

CHICAGO, ROCK ISLAND & PACIFIC.—This company, which was reported in the *Railway Age* of August 12 as preparing plans for the construction of a one-story passenger station 40 by 330 ft. at Moline, Ill., will accept bids September 5.

ELGIN, JOLIET & EASTERN.—This company will construct a 75 ft., double track deck plate girder span with ballast floor and a 25 ft. approach span across the Grand Calumet river at Gary, Ind.

ILLINOIS CENTRAL.—Through an error, it was reported in the August 26 issue that the contract for altering this company's fruit sheds at Mounds, Ill., had been awarded to the Ellington & Miller Co. This contract was instead awarded to Joseph Nelson & Sons, Chicago.

ILLINOIS CENTRAL.—This company has awarded a contract to Mortimer & Lindstrom, Chicago, for the construction of a 12-in. and a 15-in. sewer in connection with the rearrangement of sewers across the right-of-way between Twenty-fifth and Fifty-first streets, Chicago. This company has also awarded a contract to the Underground Construction Company, Chicago, for the construction of a circular brick sewer, 7-ft. in diameter, on Rhodes avenue, and a contract to the Great Lakes Dredge & Dock Company, Chicago, for driving 1,100 ft. of new breakwater between Twenty-ninth and Thirty-first streets, Chicago.

UNION PACIFIC.—This company has awarded a contract to the Graver Corporation of Chicago, for the erection of a 200,000-gal. steel water storage tank at Ogallala, Neb., and an 800,000-gal. steel water storage tank at Council Bluffs, Ia.

VANCOUVER HARBOR TERMINAL RAILWAY.—Consul General F. M. Ryder, Vancouver, B. C., reports that plans for the construction of the first section of this railway, which is to connect the Great Northern with various piers and docks at an estimated cost of $80,000 have been made. The project is under the direction of the Vancouver Harbor Commission and it is not thought likely that work will be undertaken on the project until a new harbor board can be named.

THE PENNSYLVANIA RAILROAD reports that its surprise checking, conducted during the month of July, in the Eastern Region, shows that efficiency in train operation has not been impaired, in the slightest degree, by the shopmen's strike. The records show a perfect performance in more than 99.9 per cent of the cases. A total of 33,807 tests were made, and but 38 failures were recorded. Eight divisions had absolutely perfect scores. They were the Philadelphia, Cumberland Valley, Cresson, Trenton, Baltimore, Norfolk, Elmira and Schuylkill Divisions.

Railway Financial News

BUFFALO CREEK & GAULEY.—*Asks Authority for Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to issue $340,000 of 6 per cent equipment trust certificates and $86,000 of additional capital stock.

CHESAPEAKE & OHIO.—*Trackage Rights Authorized.*—The Interstate Commerce Commission has issued a certificate authorizing this company to operate by means of trackage rights over a line of the Norfolk & Western between Waverly and Valley Crossing, Ohio, 62 miles.

CHICAGO & ALTON.—*Receivership.*—Judge George A. Carpenter, in the Federal Court at Chicago, on August 30, appointed W. G. Bierd, president of the Chicago & Alton, and W. W. Wheelock, an attorney, receivers for the road. Silas H. Strawn, who was named as counsel for the receivers, issued the following statement:

The Chicago & Alton has for several years been unable to meet all of the interest on its six per cent general mortgage bonds, but the holders of these bonds have permitted the interest to remain unpaid in the hope that general railroad conditions ultimately would adjust themselves in such a way as to restore the property to an assured and reasonable prosperity.

The directors, however, have been hopeful that these conditions soon would approach more nearly to normal, or would, in part at least, be met by offsetting factors of a helpful character. But such excessive costs bear particularly heavy on short railroads with expensive terminals, such as the Alton, which operates a little more than 1,000 miles and has terminals in the three great cities of Chicago, St. Louis, and Kansas City, with an average freight haul of only 185 miles and an average passenger haul of only 65 miles.

The receivership at the present time, however, was precipitated by the great falling off in earnings due to the coal strike and also to the further long continued and extra expense due to the shopmen's strike. The company's normal coal traffic is heavy, and practically all mines on its line had been closed since April 1, thus entailing heavy loss in revenue, and at the same time it has been compelled to buy much of its fuel coal from Southern fields, which, with added freight charges paid foreign lines, cost it two or three times the former price.

A committee to protect the interests of the holders of the Chicago & Alton's $22,000,000 3½ per cent first lien 50-year gold bonds, due 1950, was formed at New York. The committee consists of the following members: F. H. Ecker, vice-president of the Metropolitan Life Insurance Company, chairman; J. H. Perkins, president of the Farmers' Loan and Trust Company; J. V. E. Westfall, vice-president of the Equitable Life Assurance Society; Bertram Cutler, of New York, and Asa S. Wing, president of the Provident Life and Trust Company of Philadelphia.

The Farmers' Loan and Trust Company will act as depositary for the committee.

CHICAGO RIVER & INDIANA.—*Asks Authority to Assume Liability.*—This company and the New York Central have jointly applied to the Interstate Commerce Commission for authority to assume liability in respect of $414,700 of equipment notes of the Chicago Junction.

CINCINNATI, INDIANAPOLIS & WESTERN.—*Authorized to Acquire Road.*—The Interstate Commerce Commission has issued a certificate authorizing the acquisition of part of the road of the Chicago & Indiana Coal Railroad extending from Brazil, Ind., for a distance of 25.76 miles in Parke County, Ind. This line is a part of the coal railroad division of the Chicago & Eastern Illinois which was recently abandoned.

GULF COAST LINES.—*Annual Report.*—This company's annual report for 1921 is reviewed in an article on another page of this issue entitled "Gulf Coast Lines Show Increasing Prosperity."

INTERNATIONAL & GREAT NORTHERN.—*Asks Authority to Issue Securities in Reorganization.*—This company has applied to the Interstate Commerce Commission for authority for the issuance of securities in accordance with the plan of reorganization of the International & Great Northern, announced under date of June 1 by J. & W. Seligman & Co., and Speyer & Co., reorganization managers. It is proposed to issue $20,000,000 first mortgage 30-year 6 per cent gold bonds dated July 1, 1922, $17,000,000 30-year 6 per cent adjustment mortgage bonds dated January 1, 1923, $7,500,000 of common stock and $2,400,000 of 6 per cent notes maturing March 1, 1930, to the director general of railroads.

Charter Granted.—A new charter of the International & Great Northern has been filed in the secretary of state's office of Texas which provides that the general offices will remain at Palestine, although efforts were made to have this requirement removed. Walter F. Woodul is president with headquarters at Houston, Texas.

PITTSBURGH & WEST VIRGINIA.—*Asks Authority to Issue Stock.*—This company has applied to the Interstate Commerce Commission for authority to increase its capital stock by the issuance of $4,900,000 of preferred stock to reimburse the treasury for expenditures.

ST. PAUL UNION DEPOT COMPANY.—*Asks Authority to Issue Bonds.*—This company has applied to the Interstate Commerce Commission for approval of its first and refunding mortgage to secure an issue of $20,000,000 of first and refunding mortgage bonds and for the issuance of $15,500,000 of such bonds to be guaranteed by the companies which own the stock of the depot company.

UPPER MARION & PLYMOUTH.—*Asks Authority to Issue Stock.*—This company has applied to the Interstate Commerce Commission for authority to issue $350,000 of common stock for the purchase of equipment.

VIRGINIA.—*Authorized to Increase Dividend Rate.*—The Interstate Commerce Commission has authorized an increase in the dividend rate on $27,955,000 of preferred stock from 5 to 6 per cent.

Trend of Railway Stock and Bond Prices

	Aug. 29	Last Week	Last Year
Average price of 20 representative railway stocks	73.09	73.64	53.30
Average price of 20 representative railway bonds	89.51	89.67	75.39

Dividends Declared

Boston & Albany.—$2.00, payable September 30 to holders of record August 31.

Pittsburgh, Ft. Wayne & Chicago.—Common, 1¾ per cent, quarterly, payable October 1 to holders of record September 9; Preferred, 1¾ per cent, quarterly, payable October 3 to holders of record September 9.

A MICHIGAN CENTRAL passenger train bound from Toledo to Detroit, crashed into a motor truck loaded with turpentine and gasoline. The engineman and the fireman met death when they leaped from the engine into the flames that burst from the ruptured steel drums which contained the explosive fluids, and the driver of the truck died from burns five hours afterward.

Photo by International

A Washout Near Lyons, N. Y.

Railway Officers

Operating

C. L. Strom has been appointed trainmaster of the Chicago & North Western with headquarters at Benld, Ill.

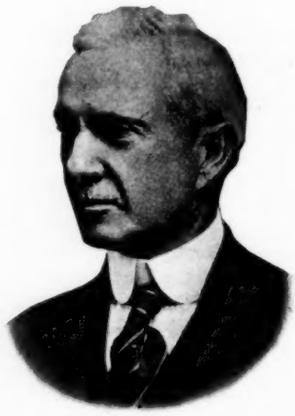
H. P. Miller, general yardmaster of the Pennsylvania, has been appointed assistant trainmaster with headquarters at Ft. Wayne, Ind.

W. L. Whiter, transportation inspector of the Pennsylvania, with headquarters at Ft. Wayne, has been appointed assistant trainmaster, with the same headquarters.

Charles H. Gaffeney, chief clerk to the superintendent of telegraph of the Central of New Jersey for the past 20 years, has been appointed superintendent of telegraph, with headquarters at Jersey City, N. J., to succeed F. G. Sherman, deceased. Mr. Gaffeney will also act as superintendent of telegraph for the Western Union Telegraph Company at Jersey City.

Traffic

C. E. E. Ussher, passenger traffic manager, rail lines, of the Canadian Pacific with headquarters at Montreal, has been promoted to general passenger traffic manager, a new position, with the same headquarters.



C. E. E. Ussher

C. B. Foster, assistant passenger traffic manager with headquarters at Montreal, has succeeded Mr. Ussher as passenger traffic manager, rail lines. Mr. Ussher was born on December 29, 1857, at Niagara Falls, Ont., and entered railway service in 1874 as a clerk in the office of the auditor of the Great Western (now the Wabash). From 1876 until 1880 he was a clerk in the general passenger office of the same road and, from the latter date to 1883, chief ticket clerk of the Wabash, St. Louis & Pacific (also now a part of the Wabash). For a few months during 1883 he served as a rate clerk for the Chicago & Atlantic (now Chicago & Erie) and from then until 1886 engaged in private pursuits in Hamilton, Ont. He then became chief ticket clerk for the Canadian Pacific and, in 1889, was promoted to assistant general passenger agent. In 1898 he became general passenger agent, eastern lines. Nine years later he was promoted to assistant passenger traffic manager and, in 1910, to passenger traffic manager, which position he was holding at the time of his recent advancement. Mr. Foster was born on September 30, 1871, at Kingston, N. B., and was educated in the public schools. His entire railway service has been with the Canadian Pacific, his first position, which he took in 1891, being stenographer to the division passenger agent at St. John, N. B. In 1893 he became traveling passenger agent and, in 1899, chief clerk in the passenger department. In 1902 he was promoted to district passenger agent and, in 1908, to assistant general passenger agent, Western lines. In 1910 he was promoted to general passenger agent, Western lines, and several years thereafter to assistant passenger traffic manager, which position he held at the time of his recent promotion.

C. B. Foster

Allan Cameron has been appointed Oriental manager for the Canadian Pacific railway and steamship lines with headquarters at Hong Kong, China.

Purchasing and Stores

George Kefer, whose appointment as purchasing agent of the Long Island with headquarters at Jamaica, Queensborough, New York City, was announced in the *Railway Age* of August 26, was born in New York City on November 22, 1870. His early education was obtained in the public schools of Whitestone, Long Island. After graduation in 1885 Mr. Kefer entered the employ of the Long Island Railroad as a messenger in the accounting department, then located at Long Island City. He subsequently served in various clerical capacities in the same department. On November 1, 1889, he was appointed chief clerk to the purchasing agent, which position he held for about 33 years until his recent promotion to purchasing agent as above noted.

G. Kefer

Obituary

W. B. Deveny, shop superintendent of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., was killed in an automobile accident on August 22.

A. E. Killam, formerly for many years general inspector of bridges and buildings of the Intercolonial Railway and president of the American Railway Bridge and Building Association in 1913, died at Moncton, N. B., on August 20, at the age of 88.

Burwell Boykin McCaa, auditor freight accounts of the Seaboard Air Line died on August 16 at Norfolk, Va. Mr. McCaa was born at Gainesville, Fla., in November, 1863. He entered the service of the Florida Transit Company, now a part of the Seaboard Air Line, in 1881, and has been in the continuous service of the Seaboard Air Line and its predecessors for over 40 years. In 1894 he was appointed traveling auditor at Jacksonville, Fla., remaining in that position until 1905 when he was promoted to auditor freight accounts, with headquarters at Portsmouth, Va. He also served for several years on important committees of the Railway Accounting Officers' Association of America.

F. G. Sherman, superintendent of telegraph of the Central of New Jersey whose death on August 20 was reported in the *Railway Age* of August 26, was born in 1855 near Beloit, Wis. In March, 1873, he began railway work as a night operator on the Chicago, Burlington & Quincy, subsequently serving as operator and station agent until 1882 when he went to the Chicago, Milwaukee & St. Paul as operator and agent. In 1884 he returned to the Burlington as dispatcher at Aurora, Ill., and in September, 1899, entered the service of the Philadelphia & Reading as train dispatcher. Three years later he was appointed assistant trainmaster of the Central of New Jersey and in October, 1910, was promoted to superintendent of telegraph.

Representatives of the Association of General Contractors, at a hearing before the Interstate Commerce Commission at Washington on August 25 urged a modification of the commission's Service Order No. 23 to give shippers of building materials an equal opportunity in the use of open top cars, with users of coal for commercial purposes.